VOELKER NURSING BED

INSTRUCTION AND MAINTENANCE MANUAL

MODELS 2080/3080

Edition: May 2002

Better Beds.

Warnings

Caution: Read all instructions and warnings prior to use!

Warning:

> Use only factory original parts for the repair of this bed .

> If possible bed must be repaired in lowest position.

> Unplug bed during service or cleaning. Refer to this instruction and maintenance manual for additional precautions.

Warning: Powered bed mechanisms can cause serious injury. Keep all body parts from between side rails when operating bed. Do not allow persons, pets, or objects to be under the bed during operation of any powered feature.

Warning: Under the following conditions higher security measures must be taken:

1. Use of bed by children.
2. Use of bed by those with diminished mental faculties.
3. Use of bed in psychiatric settings.

Warning: Double click option should be disabled under the following conditions:

1. Use of bed by children.
2. Use of bed by those with diminished mental faculties.
3. Use of bed in psychiatric settings.

Warning: Protective covers for the safety frames or other security measures should be used with children under 12 years and occupants with diminished mental faculties or exceptional physical weakness.

Warning: Keep bed in lowest position except for providing care. Bed should be at the lowest convenient height for entry and exit. Brakes must be engaged when getting into or out of bed!

Warning: Safety frames must either be fully raised and locked into position or be fully lowered to the bottom most position. Danger of pinching.

Warning: Safety frames have been designed to indicate the edge of the bed. Were restraint is required appropriate measures must be taken.

Warning: Defective safety frames can cause serious injury. Therefore beds with defective safety frames must be taken out of use immediately.

Warning: Do not use with oxygen administering equipment of other than the nasal or mask type. Do not use in rooms with possible explosion risk e.g. operating rooms. Possible fire hazard.

Warning: Do not use together with other electric features.

Warning: To minimize risk of injury do not use bed with mattresses of any other size than the following. If you do not use a Völker mattress contact a dealer of your confidence.

Size of mattress	Size of mattress frame
88,5 x 200 x 12 cm	90 x 200 cm
88,5 x 220 x 12 cm	90 x 220 cm
98 x 200 x 12 cm	100 x 200 cm
98 x 220 x 12 cm	100 x 220 cm

© **Copyright** by **Völker AG**

Völker AG
Wullener Feld 79
D-58454 Witten
Tel.: +49-0 23 02-960 960 Fax: +49-0 23 02-960 96 16

All rights reserved. Copying and reproduction whole or in part prohibited.

Foreword

Many congratulations for having chosen a Voelker nursing bed. We would like to take this opportunity of thanking you for showing such confidence in our company and its products.

Before deciding to purchase, you received thorough advice which clearly convinced you of the many benefits of Voelker beds - benefits which in this configuration really are unique. For this reason, your choice was just sensible, but wise. The fact that a Voelker nursing bed, despite all its technical features and practical advantages, does not look in the least like a piece of medical equipment undoubtedly made your choice all the easier.

These operating and maintenance instructions inform you about the technical features of Voelker nursing beds and tell you how to use them to the benefit of residents, patients and carers.

We have produced this instruction and service manual so that your staff never have any problems with this nursing bed. To this end, the manual:

- describes all technical features,
- provides tips for caring for the bed,
- informs about maintenance work and
- describes trouble shooting measures.

We are sure that these instructions will quickly make you familiar with your new nursing bed and enable you to get maximum satisfaction from it.

Michael Hüppe
Member of the board
Völker AG

WARNINGS **1**

FOREWORD **3**

1. INTRODUCTORY REMARKS **7**

1 .1 . KEY TO SYMBOLS 7

2. TECHNICAL SPECIFICATION **8**

2.1 TECHNICAL DATA, MODELS 2080/3080 8
2.2. CLASSIFICATION 9
2.3. FUNCTIONS 9
2.4. COPYRIGHT 9
2.5. WARRANTY AND LIABILITY 10
2.6. DISPOSAL 10

3. SAFETY REGULATIONS **11**

3.1. BEFORE PUTTING BED INTO USE 11
3.2 . CONDITIONS OF USE 11
3.3. MPG § 22 SECTION 1 (GERMAN LAW GOVERNING USE OF MEDICAL PRODUCTS) 11
3.4. CHECKING THE SAFETY AND CONDITION OF BED 12
3.5. HEIGHT OF BED 12
3.6. CENTRAL BRAKING SYSTEM 12
3.7. HEIGHT ADJUSTMENT 13
3.8. SAFETY FRAMES 13
3.9. INCORRECT USE 13
3.10. ELECTROMAGNETIC AND ELECTROSTATIC INTERFERENCE 14
3.11. CLEANING AND DISINFECTION 14

4. DEFINITIONS AND TECHNICAL DESCRIPTION **15**

4.1. DEFINITIONS 15
4.2. BRIEF TECHNICAL DESCRIPTION 15

5. HINTS FOR CARERS **18**

6. BED CONFIGURATIONS AND OPERATIONAL FEATURES **19**

6 .1. OVERVIEW OF NURSING BEDS, MODELS 2080/3080 19
6.2. OVERVIEW OF BED CONFIGURATIONS AND BED FUNCTIONS WITH THE MANUAL CONTROL UNIT 20
6.3. OPERATION WITH MANUAL CONTROL 21

6.4 OVERVIEW OF BED CONFIGURATIONS AND BED FUNCTIONS WITH THE CARER'S KEYBOARD 23
6 .5. OPERATION WITH CARERS' KEYBOARD (OPTIONAL) 24
6.6. PUTTING THE BED INTO USE 24
6.6.1. Conditions of use *24*
6.6.2. Mains power supply *24*
6.6.3. Putting bed in use for first time *25*
6.6.4. General operating instructions *25*
6.6.4.1 Duty cycle *25*
6.6.5. Taking the bed out of use *26*
6.6.6. Putting the bed into use again *26*
6.7. ADJUSTING THE BACK SECTION 27
6.8. ADJUSTING THE UPPER LEG SECTION 28
6 .9. ELECTRICAL ADJUSTMENT OF LOWER LEG SECTION / RAISED LEG POSITION 29
6.10. HEIGHT ADJUSTMENT OF WHOLE BED (MANUAL CONTROL UNIT AND CARER'S KEYBOARD) 30
6.11. BATTERY BACK-UP SYSTEM 31
6.12. RECHARGEABLE BATTERY PACK (OPTIONAL) 32
6.13. TRENDELENBURG / COUNTERTRENDELENBURG (MODELS WITH CARERS' KEYBOARD) 33
6 .14. CENTRAL BRAKING SYSTEM 34
6 .15. SLOPING POSITION, OPTIONAL DE LUXE MANUAL CONTROL 35
6.16. FIXING LOCATION FOR PATIENT'S GRAB-HANDLE 35
6.17. FIXING LOCATIONS FOR ACCESSORIES 36
6.18. USE OF SAFETY FRAMES 36
6.18.1. General warning concerning use of safety frames *36*
6.18.2. Safety frames, Model 2080 ..... *37*
6.18.3. Safety frames, Model 3080 ..... *38*
6.19. MAINS POWER SUPPLY CABLE 40

7. FUNCTIONAL TESTING 41

8. CLEANING AND DISINFECTION 44

9. ACCESSORIES 46

9.1. ACCESSORIES FOR NURSING BEDS 46

10. SERVICE AND MAINTENANCE 51

11. SAFETY REGULATIONS FOR SERVICE AND MAINTENANCE 52

11.1. BEFORE BEGINNING MAINTENANCE WORK 52
11.2. CHECKING THE OPERATIONAL SAFETY AND CONDITION OF THE BED 52

12. DESCRIPTION OF SUBASSEMBLIES, NURSING BED MODELS 2080, 3080 53

13. TROUBLESHOOTING 70

14. MAINTENANCE AND SERVICING INSTRUCTIONS 74

14.1 REPLACING BATTERY 75
14.2. REPLACING OKIMAT 480 (DRIVE UNIT) 75
14.3. REPLACING FOOT CAP 77
14.4. REPLACING CASTORS 78
14.5. REPLACING MANUAL CONTROL UNIT 78
14.6. REPLACING MATTRESS RETURN LEVER 79
14.7. REPLACING MATTRESS DISPLACEMENT SLIDES 79
14.8. REPLACING MOUNTING BRACKET FOR SLIDES/BOLTS 80
14.9. REPLACING CABLE LOOM 80
14.10. REPLACING CHASSIS MOTOR 80
14.11. ADJUSTING END-STOP SWITCH 81
14.12. MODEL 2080 83
14.12.1. Replacing safety frame slides 83
14.11.2. Replacing ratchet lock / gliding channel 83

15. TOOL LIST 84

16. SERVICE CENTRES 84

17. SPARE PARTS ORDER FORM 85

18. DECLARATION OF CONFORMITY 87

1. Introductory remarks

You have purchased a Voelker nursing bed. This bed was developed and manufactured in accordance with all relevant German and European standards, and the current state of technical knowledge. Voelker nursing beds meet all safety and functional requirements to the full. They have been inspected and tested in accordance with international standards and have been awarded the CE Seal for medical products. Please read the basic safety instructions in Chapter 3. Safety regulations. Please also pay strict attention to the further instructions given on subsequent pages, especially with a view to possible warranty claims. The instruction and service manual is intended to give practical information on the save and correct use and servicing of the bed.

1 .1 . Key to symbols

Caution! Adher to operating instructions! Please read safety regulations!

Direct current

Alternating current

Safety Category II device
Protectively insulated

Type B device according to DIN EN 60601-1

These operating instructions give users practical information on the safe and correct operation of the bed.

Anybody concerned with setting up, operating or maintaining the bed must have these operating and maintenance instructions and the safety regulations. To avoid operating errors and to ensure the trouble-free operation of our beds, this documentation must always be readily available to carers.

2. Technical specification

2.1 Technical data, Models 2080/3080

Model	2080	3080
Length*	204,5/224,5 cm	
Width*	99-,110,5 cm	96,6 – 126,5 cm
Height*	74,7 – 81,7 cm	46,0 – 81,7 cm
Height adjustment range*	34,5 cm or 40,5 cm	
Top edge mattress-frame*	35,5 – 70 cm or 39,5 – 80 cm	
Mattress-frame (4-sectional)*	90 x 200 cm	
	90 x 220 cm	
		100 x 200 cm
		100 x 220 cm
	Special versions	
Volumetric weight of the mattress material	30 – 50 kg/m≥	
Net weight	Ca. 97 kg	
Safe working load	170 kg	
Swivel castors, 4	Type: K-100/2x1, Halver Rollen or Blickle Rollen	
Castor load (dynamic)	100 kg, Vulkolan tyres	
Mains voltage*	AC 230 V, 240 V, 115 V, 100 V	
Nominal capacity	350 W	
Nominal frequency	50 to 60 Hz	
Transformer	150 VA	
Manual control unit fuse	Type: Polyswitch RXE 025	
Mattress-frame motors fuse	Type: Polyswitch, fixed, 2,5 A	
Lifting gear motors fuse	Type: Polyswitch, fixed, each motor 3 A	
Power plug fuse	2 A / 3. 15 A (UK)	
Battery	Type 9 V block battery (alkali-manganese, commercially available)	
Standard manual control unit	Type: Voelker	
De luxe manual control unit	Type: Voelker	
Carers' keyboard	Type: Voelker	
Linear drive for Back section, upper leg section	Type: Okimat 480 Okin	
Lifting gear motor	Type:390.257 HV01 Okin	
Temperature range in use	+10°C to +40°C	
Temperature range, transport/storage -	20°C to +60°C	
Humidity	30% to 75%	
Atmospheric pressure range	700 hPa to 1060 hPa	
Sound power level	Lower than 65 dB(A)	

- parts marked with * depend on length, width or model of the bed

2.2. Classification

Protection against electric shock	Safety category II or equipment with internal electrical power source
Protection type (linear drive)	IP X4, (IP X6 optional) in accordance to standard EN 60529
Degree of protection of working parts against electric shock	Typ B
Degree of protection against explosive materials and compounds	The bed is not explosion-protected and may not be used in environments in which there are inflammable anaesthetics or cleaning agents.
Duty cycle	ED 10% Operating time max. 2 min Max. 5 switched operations per min
MPG category	Class I

2.3. Functions

Height adjustment	electric motor
Back section adjustment	electric motor; 70° max. angle
Upper leg section adjustment	electric motor; 45° max. angle
Lower leg section adjustment	manual
Raised leg positioning	electric motor/manual

2.4. Copyright

All documentation is subject to copyright. These operating instructions may only be made available to third parties with the written permission of Voelker AG. Unless expressly permitted by the copyright holder, the transfer and copying of documentation, either whole or in part, or its exploitation and/or divulgence are forbidden. Infringements are punishable in law and oblige transgressors to pay damages. We reserve the right to exercise all our rights in law to the full.

2.5. Warranty and liability

We accept liability for possible errors and omissions within the terms of the warranty set out in the main contract. All further claims are excluded. Claims for damages – from whatever legal ground they may be held to emanate – are expressly excluded. We reserve the right to carry out alterations to the nursing beds dealt with in these operating instructions in accordance with future technical developments. We accept no liability whatsoever for damage and/or disruption caused by the misuse of the bed or by ignorance of these operating instructions. The textual and visual representations contained in these operating instructions **do not necessarily** conform in all cases to the products supplied or to possible spare parts orders. Drawings and illustrations are not to scale.

2.6. Disposal

At the end of its service life, the nursing bed (incl. accessories) must be disposed of without damage to the environment. Local regulations concerning waste disposal must be observed. The 9 V battery used (initial equipment) is free of cadmium and mercury.

3. Safety regulations

These regulations are to be read without fail and strictly adhered to!

3.1. Before putting bed into use

The person responsible for nursing care must be thoroughly familiar with these operating instructions **before the bed is put into service**.
Before the bed is put into service carers must be comprehensively instructed in its use (see Chapter 5. Hints for carers). Furthermore, all carers must be made thoroughly aware of potential dangers when using the bed, as described in these operating instructions.

3.2 . Conditions of use

Voelker Model 2080/3080 nursing beds are intended for the care of residents in rooms in nursing homes, in residential homes for the elderly and in suitable rooms in private residences. They may not, however, be used for transportation purposes. Any deviation from this use is expressly excluded from possible liability claims. The nursing beds described herein are **not** explosion-resistant. They may **only** be used in environments in which there are no inflammable anaesthetics and/or cleaning agents (see professional association leaflet ZH 1/200).

3.3. MPG § 22 Section 1 (German law governing use of medical products)

Nursing beds may only be put into use, operated and used **a**) for their intended purpose, **b**) in accordance with the provisions of the medical products law (MPG) and its statutory instruments, **c**) with due regard to accepted technical practice and **d**) in accordance with safety and accident-prevention regulations. **On no account** may the bed be used in a faulty condition that could endanger residents, carers or third parties.
The bed may only be operated by those able to guarantee its correct operation by virtue of their qualifications, knowledge and/or experience.

3.4. Checking the safety and condition of bed

It is essential that users check that the nursing bed is in good condition and absolutely safe before use. Functional testing procedures are not only to be carried out before first use, but also continuously during the entire service life of the bed. If necessary, the functional safety and correct operation of the bed must be checked daily or after each change of shift to ensure that its use does not put anybody at risk. To reduce maintenance to a necessary minimum, the bed should be cleaned, disinfected and tested after each period of use so that it can be back into service again without delay or risk. (see Chapter 7. Functional testing). Should certain functions – for example, the back section or height adjustment – fail, or the main fuse blow, it could well become necessary to transfer the occupant to another nursing bed.

3.5. Height of bed

Danger of falling out of bed

In the case of unsupervised use, it is recommended to put the bed into its lowest position to minimise the danger of injury through the occupant falling out of bed. In other cases, it is advisable to adjust the height of the bed to fit the size of the occupant.

3.6. Central braking system

Danger of falling

Except when the bed is being moved, the four special castors should always be fully retracted. In this position the bed can be used as a secure and stable support without the danger of it rolling away and hence risking possible injury by falling. The blue key to release the raft-function on the manual control unit is only needed to extend the castors, not to retract them.

3.7. Height adjustment

Danger of clamping between floor and bed frame, and between mattress-frame sections and frame when lowering

When lowering the bed, ensure that no person, limbs, bedding and/or other objects are situated between the bed frame and the floor. When lowering the mattress-frame, make sure that no arms, hands, legs or feet are protruding between the mattress-frame sections and the frame. The adjustment of the optional Trendelenburg/Countertrendelenburg facility is dependent on clinical factors and may only be carried out on the instructions of physicians. In this case, proceed with special care.

3.8. Safety frames

Danger of clamping

The following safety rules must be observed when using safety frames to protect physically frail or mentally confused care-receivers from falling out of bed:

1. The fitting of safety frames should be carried out only by carers. Ensure that the frames – or sections of them – are either completely raised **and** locked into position or are completely lowered.
2. Make sure the occupant of the bed is well clear of the safety frames during the electrical adjustment of mattress-frame sections. It is also important to ensure that no limbs are protruding through the safety frame bars.
3. When the safety frames are used with children or mentally confused occupants ensure that the manual control is out of reach or deactivated (optional).

3.9. Incorrect use

The incorrect use of the bed can endanger occupants and others. This includes, for example:

- using bed as a means of transport
- incorrect operation of electrical functions and uncontrolled positioning
- using bed for children under 12 without additional safety measurements
- allowing care-receivers to operate bed without prior instruction
- simultaneous operation of electrical functions by different people
- holding keys depressed or constantly pressing different keys (“piano playing”)
- connecting electrical devices to the bed other than those intended

- moving bed by pulling on power cable
- removing plugs from sockets by pulling on cable
- using bed on a sloping floor with a gradient greater than 10%
- moving bed with extended castors when it is not in lowest position
- placing heavy loads on horizontally extended safety frames (Model 3080)
- careless use of spiral cable on manual control unit, thus risking entanglement of bodily extremities, eg fingers, toes
- the simultaneous or random operation of keys that can lead to unintended movement of the mattress-frame.

3.10. Electromagnetic and electrostatic interference

Devices and processes, e.g. cell phones, producing an electromagnetic field that could affect the electronic controls of the bed may not be used in the immediate vicinity of the bed. Devices and processes producing a strong electrostatic field or leading to the electrostatic charging of the bed that could affect its electronic controls, for example the use of non-antistatic plastic sheeting, are not permitted in the immediate vicinity of the bed.

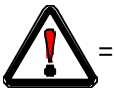
3.11. Cleaning and disinfection

The incorrect use of cleaning agents and disinfectants can be a source of danger. Protect the electrical components and manual control unit of your Voelker nursing bed from excessive moisture. Voelker nursing beds may not be cleaned in automatic washing appliances or with a high-pressure spray wand. Refer to Chapter 8. Cleaning and disinfection.

4. Definitions and technical description

4.1. Definitions

In the following text, “Voelker” means “Völker AG”.
In the following text, “Voelker bed” and “Voelker nursing bed” mean Model 2080 or 3080 nursing beds, as the case may be.
In the following text, “occupant”, “care-receiver”, “person in need of care” and “resident”, as the case may be, mean a person who is lying in or otherwise occupying the bed, or who is getting into or out of the bed.
“Due care” means that all activities at or with the bed must ensure the safety and freedom from harm of care-receivers, carers and third parties.
The operation of the bed is explained and described with the help of photos and drawings on the following pages.
Exceptionally important information is highlighted by the following symbol:


= **Caution: This information must be read without fail and strictly adhered to.**

We reserved the express right to make changes to the nursing beds dealt with in these operating instructions in accordance with future technical developments and without further notice.

4.2. Brief technical description

4.2.1 Construction:

- Construction in accordance with the following technical specification, the basic principles of appliance safety and the German medical products law (MPG).
- Construction in home-like design with large, easy-care structural members in corrosion-free aluminium finished according to Voelker colour card.
- The nursing beds require little maintenance.
- Readily accessible arrangement of structural components.

4.2.2 Chassis:

Light, enclosed aluminium chassis with two 24 V motors (not suitable for cleaning in automatic washing appliances). Lifting power 2500 N. Distortion-free construction.

- 35 mm swivel castors with Vulkolan tyres Streak-free on plastic flooring

4.2.3 Mattress-frame:

4-section aluminium profile mattress-frame for easy cleaning and drying according to the recommendations of the German Professional Nursing Association (DBfK). Individual, electrical setting of all mattress-frame positions by means of two separate, independently-operating motors.

With exception of Trendelenburg/Countertrendelenburg positioning, all functions can be individually set by care-receivers via manual control unit.

The manual control unit, that can be conveniently attached to the side of the bed, has 7 (standard) or 8 (de luxe) functions that are easily identifiable by means of pictographs.

The back section is continuously adjustable up to 70°.

Integrated mattress displacement mechanism automatically shifts back section 10 cm towards bedhead when it is being raised. This stops the occupant from sliding down the bed and concertaining against the footboard.

The upper leg section can be set in bent-knee position electrically. Raised leg position can be set either manually or electrically.

4.2.4 Safety frames:

Two (Model 2080) or four (Models 3080) safety frames. The safety frames do not project beyond the outer extremities of bed.

In the case of Model 3080 the safety frames can also be used as a support when sitting up or leaving the bed.

4.2.5 Accessory fixing locations:

Two fixing locations for grab-handle either on bedhead or footsection. Another two fixing locations for fitting accessories on bedhead and footsection.

4.2.6 Electrics and control

No “electric smog” because of mains supply cut-out.

Maintenance-free motors.

Standard manual control unit for care-receivers with the functions:

back section	up/down	key colour:	blue
upper leg section	up/down	key colour:	blue
height adjustment	up/down	key colour:	blue
extend swivel castors		key colour:	blue

De luxe manual control unit (optional) with additional function:

sloping position	up	key colour:	blue

<u>Models 2080/3080 with carers’ keyboard:</u>

- Care-receiver’s manual control unit can be deactivated by carers
- Additional automatic lifting function (“double click”)

- Trendelenburg/Countertrendelenburg positioning

This bed can be set in Trendelenburg/Countertrendelenburg position continuously and independently of height adjustment. The Trendelenburg/Countertrendelenburg position can be set up to 15° (head low and feet low positions).

4.2.7 Disinfection:

The whole bed (incl. wooden parts) can be cleaned or disinfected with a damp cloth and commercial cleaning agents or wipe-down disinfectants. Please observe the special instructions in Chapter 8. Cleaning and disinfection.

4.2.8 Wooden superstructure:

Headboard and footboard with solid beech cross-members, partly with rounded or flat-section side members. Corners and edges rounded off. Multi-layered veneered chipboard panels, upper edges with rounded off solid wooden edge band. Model 2080 fitted with safety frames with solid wooden handrail on each side. Model 3080 fitted with two-section safety frames on each side. Raised headend safety frames provide secure support when sitting up or getting in or out of bed. Headboards/footboards also available in solid wood (optional). Painted finishes in double-layer DD-coating.

5. Hints for carers

This documentation contains all information necessary for the routine operation of Voelker nursing beds.

Voelker accepts no liability whatsoever for damage, injury or accidents caused by the irresponsible, careless or incorrect operation or handling of Voelker nursing beds. The question of personal culpability is thereby fully irrelevant. If required by the customer, a basic introduction to the operation of the bed can be provided by a member of Voelker staff or its representative. Carers' participation in such training sessions must be certified on a special form with names, dates and signatures, confirmed by Voelker.

All safety regulations contained in this documentation **-** especially those in Chapter 3. Safety regulations - **must be adhered to!**

Only the strict observance of the good practice described in this documentation will ensure the safety of carers and care-receivers.

Battery Back-up system:

In the event of power failure, a 9 V battery enables the mattress-frame to be put into a level position via the manual control unit or the carers' keyboard (optional). In order to guarantee optimal performance, the 9 V battery should be renewed after **each** fast release! Use only quality branded batteries to ensure optimal performance!

6. Bed configurations and operational features

6 .1. Overview of nursing beds, Models 2080/3080

Model 2080:

footboard, headboard, end-to-end raisable, safety frames

Model 3080:

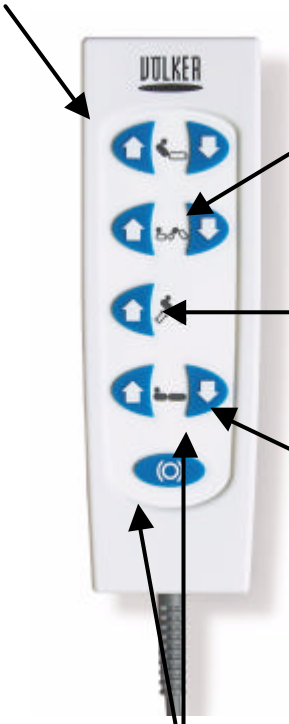
footboard, headboard,

double section, raisable, safety frames integrated in mattress-frame

6.2. Overview of bed configurations and bed functions with the manual control unit

BACK SECTION ADJUSTMENT

UPPER LEG SECTION ADJUSTMENT



SLOPING POSITION
(only models with optional
de luxe manual control unit)

HEIGHT ADJUSTMENT
(Brakes off)

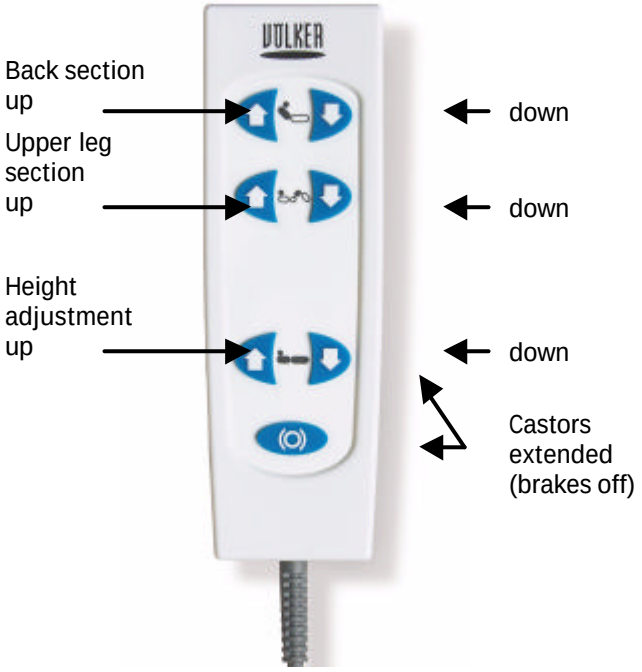
CASTOR RELEASE

UPPER/LOWER LEG SECTION ADJUSTMENT

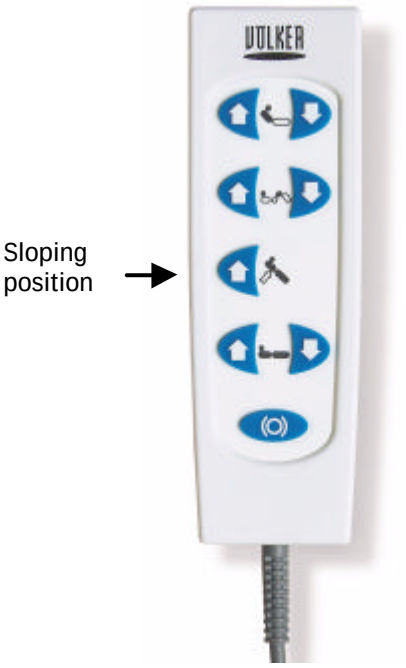
AND RAISED LEG POSITION

6.3. Operation with manual control

Standard manual control:



De luxe manual control:



- **Back section up** – continuously raises back section to enable occupant to sit up in bed.
- **Back section down** – continuously lowers back section to enable occupant to lie down in bed.
- **Upper leg section up** – continuously raises upper leg section into bent-knee position.
- **Upper leg section down** - continuously lowers upper leg section until mattress-frame is flat again.
- **Height adjustment up** – raises whole mattress-frame to required level.
- **Height adjustment down** – lowers whole mattress-frame to required level. Height adjustment stops automatically at lowest level to avoid extending castors (releasing brakes) accidently.
- **Extend castors** – Simultaneous pressing of both keys (see illustration manual control unit) fully lowers bed and castors extend.
- **Height adjustment up / Brakes** – Press this key to retract extended castors and hence apply brakes.

Note:

All the functions on the manual control unit have pictographs and directional arrows for easy identification.

To extend the castors (release brakes), the blue key “Extend castors” and the key “Height adjustment down” must be pressed simultaneously. The key “Height adjustment up” only operates the brakes when the castors are extended. Otherwise it serves solely to adjust the height of the whole mattress-frame.

WARNING:

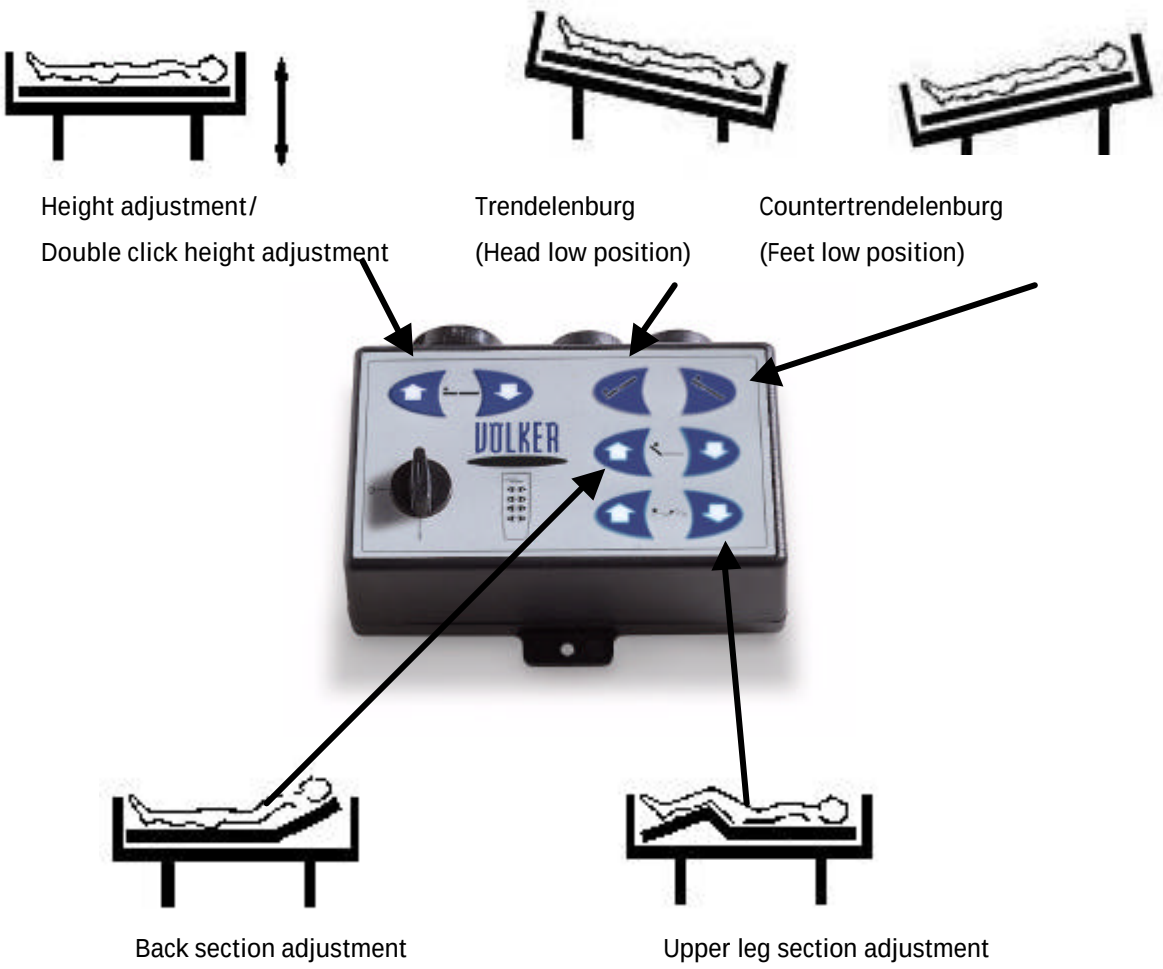
The castors **must always be retracted** and hence the **brakes applied** when getting into or out of bed!

The manual control unit may only be deactivated in cases of real need resulting from a careful assessment of the care-receiver’s mental and physical condition. If the bed is not equipped with a deactivation device, then in such cases the manual control unit should be placed out of the care-receiver’s reach. A manual control unit holder for fitting to the footboard is available as an accessory.

Note that if the manual control unit is within the care-receiver’s reach, detailed documentary **care records** must be kept (it is in any case essential to ensure that care-receivers, carers and/or third parties are not endangered in any way).

6.4 Overview of bed configurations and bed functions with the carer's keyboard

Optional: Models 2080/3080 with carers' keyboard



Rotary switch: deactivation of care-receiver's manual control unit and carer's keyboard except Trendelenburg positioning.

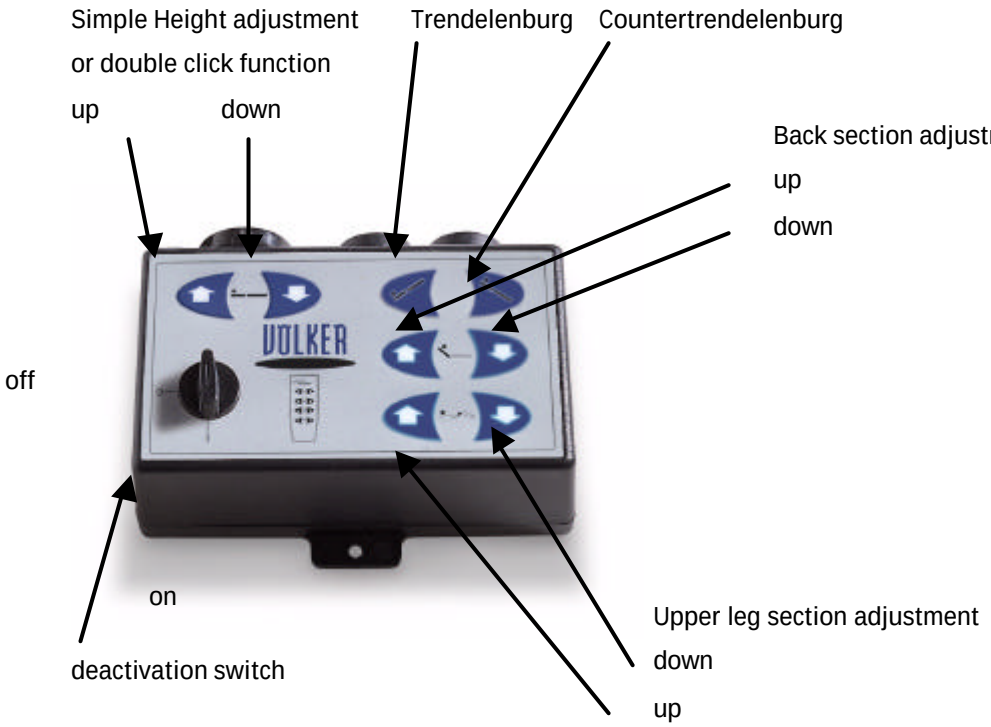
IMPORTANT:

Models with carers' keyboard:

The carers' keyboard is fitted with a deactivation switch to stop the occupant from using prohibited functions.

Should none of the functions work via the manual control until, then please check that it has not been deactivated at the carers' keyboard.

6 .5. Operation with carers' keyboard (optional)



6.6. Putting the bed into use

6.6.1. Conditions of use

The bed is delivered by Voelker Customer Service or its representatives ready for use, and you have already received some basic initial information about the individual functions. If, however, you have to put your bed into use yourself, or if it is to be put back into use after a longer period in storage, then please observe the following points. The bed is only authorised for use in dry rooms (see Chapter 2.1 Technical data, Models 2080/3080). Mains power supply is required for the operation of the bed (see Chapter 6.6.2 Mains power supply). Move the bed only across firm surfaces. Do not attempt to push it over obstacles greater than 2 cm in height. The maximum gradient of the floor may not exceed 10°.

6.6.2. Mains power supply

The mains power supply must be 230 V/50 Hz (Euro connecter), 240V/50 Hz (UK connecter), 115 V/ 60 Hz (US connecter) or 100V/50 Hz (Japan connecter) depending on the model.

6.6.3. Putting bed in use for first time

Mechanical measures

Connecting the manual control

Make sure that the cable of the manual control unit is put into strain relief fitment.

The manual control unit is already fitted to the motor.

Electrical measures

Brief description:

- connect bed to mains power supply
- after connection, press the green button on the power plug for 1 second to charge the internal energy storage device

-carry out functional testing procedures (see Chapter 7. Functional testing).

The bed is now ready for use.

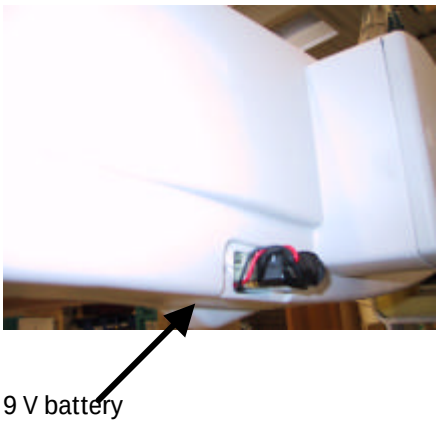
6.6.4. General operating instructions

6.6.4.1 Duty cycle

The maximum duty cycle of the electrical functions is given on the rating plate and on the technical data sheet (see Chapter 2.1 Technical data, Models 2080/3080) as ED (***E**insatz**d**auer* = duty cycle) 10%. This means that the electrical functions of the bed may only be used for maximum 2 minutes without interruption. After that, the functions may not be activated again for a minimum period of 18 minutes. Functions may only be activated for a maximum of 5 times per minute.

6.6.5. Taking the bed out of use

The bed is taken out of use by disconnecting it from the power supply. To do this pull the plug out of the mains socket. It is still possible to activate the battery back-up system via the 9 V battery. Should the bed be out of use for a longer period, then disconnect the 9 V battery from the motor.



9 V battery

(see also Chapter 6.11 Fast relaese facility)

6.6.6. Putting the bed into use again

Returning the bed to use is carried out in the same way as putting it into use for the first time (see Chapter 6.6.3. Putting bed into use for the first time). In the case of an empty or previously disconnected battery, press the green button on the power plug.

6.7. Adjusting the back section

- To raise the back section press the key for back section adjustment on the manual control until it has reached the required position.

- To lower the back section press the key for back section adjustment on the manual control until it has reached the required position.

- The back section can only be raised to a maximum of 70°. During raising, the back section is displaced a maximum of 100 mm towards the bedhead. This stops the occupant from sliding down the bed, hence increasing his or her comfort.

Warning:

When lifting the back section with raised safety frames, make sure the occupant is not in contact with the frames, and that other people's limbs are not poking through the safety frame bars (see also Chapter 3.8. Safety frames and 6.18.1. General warning concerning use of safety frames). When raising the back section to its highest position ensure that the upper leg section is not in highest position as well.

6.8. Adjusting the upper leg section

- Raising the upper leg section press the key for upper leg section adjustment on the manual control until it has reached the required position.

- Lowering the upper leg section press the key for upper leg section adjustment on the manual control until it has reached the required position. The upper leg section can only be raised to an angle of maximum 45°.

- To raise the upper leg section manually, grasp the handle at the foot of the bed, lift the leg section and allow it to snap into position at the required height.

- To lower the upper leg section manually, lift section with handle to end-stop and lower it into the horizontal.

Note:

To avoid putting care-receivers into a physiologically unfavourable position, always raise the lower leg section after raising the upper leg section, and lower it before lowering the upper leg section.

The lower leg section MAY NEVER BE RAISED alone!

In cases of incorrect use, there is danger of clamping between mattress-frame and leg section tracking roller because of the downward pressure of the care-receiver's own weight.

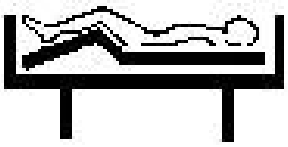
Warning:

When lifting the leg sections with raised safety frames, make sure the occupant is not in contact with the frames, and that other people's limbs are not poking through the safety frame bars (see also Chapter 3.8. Safety frames and 6.18.1. General warning concerning use of safety frames). When raising the upper leg section to its highest position ensure that the back section is not in highest position as well.

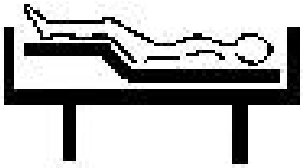
6 .9. Electrical adjustment of lower leg section/raised leg position

Certain positions can be electrically set:

- Lift upper leg section out of horizontal to achieve bent-knee position:



- Lift lower leg section into moderate bent-knee position. Then lower it until there is an audible click from the locking mechanism. Finally lift again until lower leg section is in raised leg position.



1. Press key for ca. 10 seconds.
2. Press key until there is an audible click.
3. Press key to move lower leg section into raised leg position.

- The manual adjustment of the lower leg section is possible in all positions.

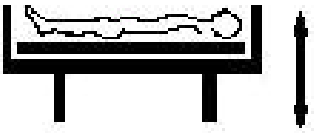
Lift lower leg section into the required position manually.
Maximum position:
Upper leg section 45° + lower leg section horizontal = raised leg position.

Warning:
In case of raised safety frames, follow instructions in Chapter 3.8. Safety frames and 6.18.1. General warning concerning use of safety frames! In cases of manual operation, always lower the lower leg section before the upper leg section. This avoids putting care-receivers into a physiologically unfavourable position. To do this, use the handle to lift the lower leg section as far as end-stop and then let it return to the horizontal. The lock is released automatically.

6.10. Height adjustment of whole bed (Manual control unit and carer's keyboard)

- Raising the whole mattress-frame press key for height adjustment on the manual switch until the bed has reached the required height.

- Lowering the whole mattress-frame press key for height adjustment on the manual switch until the bed has reached the required height.



Height adjustment

Note:

Voelker nursing beds are equipped with exceptionally quiet-running telescope-type lifting gear that adds to the convenience of carers and the comfort care-receivers. The height of the mattress-frame can be continuously adjusted from 39.5 cm to 80 cm or from 35.5 cm to 70 cm depending on the model of bed. In highest position, carers' back problems are relieved and communication with care-receivers is improved. The lowest position makes it easier to get into and out of bed. Similarly, the height adjustment facility can be used as a lift. The care-receiver sits on the edge of the bed and then raises it sufficiently to be able to stand up without having to lift his or her own weight. The safety frames of Model 3080 can be used as an additional support. (see Chapter 6.18.3 Safety frames, Model 3080)

Warning:

Before lowering bed, ensure that there are no persons, limbs or bedding between the mattress-frame and the floor, or between the mattress-frame and the chassis. The bed must be standing firmly (retracted castors) when getting into or out of it.

Danger of falling

To avoid the risk of occupants injuring themselves by falling, we recommend that the bed is fully lowered.

6.11. Battery Back-up system

In the event of power failure, a 9 V battery enables the mattress-frame to be put into level position by normal use of the manual control unit.

Only use the battery Back-up system in exceptional circumstances. For safety reasons, we recommend that the battery is replaced after each use of the battery Back-up! Only use quality branded makes to ensure optimal performance!

Replace battery on mattress-frame drive at least once every 2 years. Only use quality branded makes to ensure optimal performance! Please note that the battery may not be disposed of in domestic waste. Should the 9 V battery fail (bed does not function at all), press green button on power plug to reinstate all electrical bed functions. Renew battery to reinstate battery Back-up system.

6.12. Rechargeable battery pack (optional)

The rechargeable battery pack enables all bed operation without mains power supply for at least 10 cycles.

The light emitting diode shows three colours:

- **Green:** Rechargeable battery is connected to the mains power supply. Charging cycle is running.
- **Orange:** Rechargeable battery is charging. Bed should not be operated without mains power supply.
- **Red:** CRITICAL RANGE. Battery must be charged. Bed cannot be operated without main power supply.
- **No lights on:** Battery pack charged completely. Power cut-out works, no mains power applied in case of stand-by status.

Beeps given by the rechargeable battery signalise the rechargeable battery needs to be loaded again. The beeps become more intensive the more the battery needs to be loaded again.

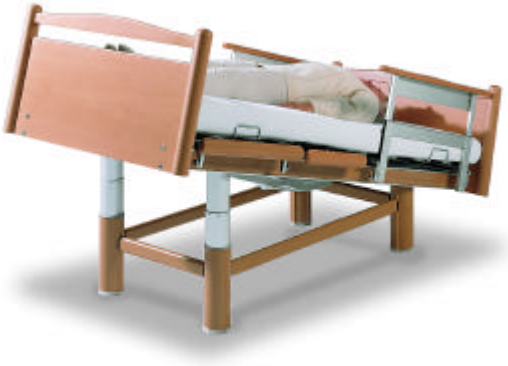
The rechargeable battery pack has an automatic cut off function before depth discharge.

The rechargeable battery pack charges after every usage and/or when the charging is under a certain level.

After connecting the bed to the mains power supply press any key of the manual control unit to make the bed function again.

During the charging cycles the rechargeable battery pack is connected to the mains power supply and thus provided with electricity. The LED signalises the status of charging during the charging cycle. The main power cut-off is deactivated and power is applied to the bed.

6.13. Trendelenburg/Countertrendelenburg (models with carers'keyboard)



Trendelenburg/ Countertrendelenburg positioning is dependent on clinical factors and may only be used on the instructions of physicians!

By using the carers' keyboard, the mattress-frame of Models 2080/3080 can be put into the appropriate Trendelenburg/Countertrendelenburg position (head low/feet low) irrespective of the height of the bed.

- For the **Trendelenburg position (head low),** press key on the carers' keyboard until the bed has reached the required angle.
- For the **Countertrendelenburg position (feet low)**, press key on the carers' keyboard until the bed has reached the required angle.

To return to zero position, press opposite function key until the mattress-frame is more or less parallel to the floor. If required, fine adjustment can be carried out over height adjustment facility (see below). If necessary, a perfectly horizontal plane can be achieved by using the height adjustment facility. This happens automatically when the bed is put into either the highest or the lowest position.

Warning:

Follow the instructions given in Chapter 6.10. Height adjustment of whole bed!

In addition, carers should use the functions with exceptional concentration and care!

Manual control unit

Trendelenburg positioning is still possible when the manual control unit has been deactivated.

Caution: Only use Trendelenburg/Countertrendelenburg facility when bed brakes are applied!

6 .14. Central braking system

- To apply the brakes of a Voelker nursing bed, press the key for height adjustment on the manual control unit. The castors retract into the chassis legs and the bed stands firmly on the four plastic floor-protection caps.

- **To make the bed mobile**, first put the bed into lowest position by pressing the key for height adjustment. Press key while holding key depressed until the lifting mechanism cuts out automatically. The bed is now standing on its four swivel castors and can be easily moved.

Warning:

The castors must always be retracted when getting into or out of bed!

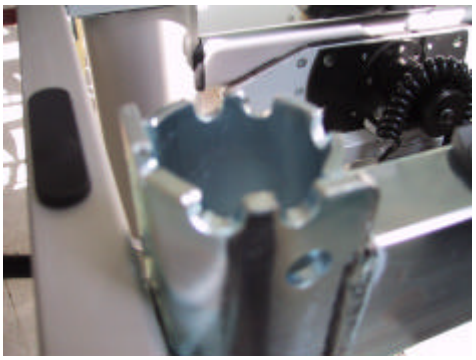
The brakes should always be applied when the bed is in use except when bed is moved.

6 .15. Sloping position, optional de luxe manual control

First put the mattress-frame in recliner position by lifting the back section and the upper leg section.

- To put the bed into sloping position , press the key on the de luxe manual control.

6.16. Fixing location for patient's grab-handle



- There is a fixing location for the bed occupant's grab-handle in each bed-frame corner-piece at the headboard.
- Push grab-handle pole into the required location until it snaps into position.

Check that pole has gone fully home and there is a tight fit! Note that the save working load of the patient´s grab-handle amounts to max. 75 kg.

The occupant's grab-handle may not be used as an aid to getting into bed!
It may never stick out beyond the outer limits of the bed and then be used as a lifting aid when getting out of, say, a wheelchair!

➢ **Acute danger of falling! (see Chapter 9.1. Accessories for nursing beds)**

6.17. Fixing locations for accessories

- The nursing bed is fitted with slide bars (T-bars) on each side. It is hence possible to position fixings on both sides of the mattress-frame for the highly flexible use of Voelker's wide range of accessories. The required adapter is simply slid onto the T-bar.

6.18. Use of safety frames

6.18.1. General warning concerning use of safety frames

Warning:

All persons whose duties include handling safety frames must read and follow the instructions below.

1. When adjusting mattress-frame positions or the safety frames it is **absolutely essential** to ensure that the occupant of the bed is not in contact with the safety frames and that no limbs are poking through the safety frame bars.

2. When the safety frames are used with children or frail and/or mentally confused occupants, ensure that the manual control unit is out of reach. If the manual control unit is installed within reach of care-receivers, then detailed documentary care records must be kept. (It is in all cases essential to ensure that care-receivers, carers and third parties are never endangered in any way.)

3. Protective covers providing additional protection against injury through contact with the safety frames are available as an accessory (see Chapter 9.1. Accessories for nursing beds). It is recommended that protective covers are used with all occupants who are particularly at risk through contact with the frames. This does not, however, exonerate carers or care-receivers from using the bed with due care.

4. When the safety frames are in use, they must either be fully raised and locked into position or be fully lowered in end-stop position. They may never remain in a middle position –

Danger of clamping!

5. The Model 2080 safety frames should always be raised or lowered one after the other by taking hold of the shaped grips on the toprails. The Model 3080 safety frames should always be raised or lowered by using **both** hands to take hold of the handrail at **each** end.

6.18.2. Safety frames, Model 2080

As standard equipment, the 2080 nursing bed is fitted with one safety frame per side. Each frame can be used independently of the other.

- To raise the safety frames just take hold of the shaped grip and lift the frame first at the headend, then at the footend until it snaps audibly into position.

- To lower the safety frames take hold of the shaped grip, lift the frame slightly, press the safety lock button on the side and lower the frame with the hand. First lower the footend, then the headend.

- When stowing the safety frames or when they are not correctly locked into position, the care-receiver's/operator's own weight leads to risk of clamping between the safety frame bars, handrail and bed-frame! To avoid the risk of clamping, the safety frames should only be operated by trained specialist staff!

- Follow instructions given in Chapter 3.8 Safety frames in case of raised safety frames!

For safety reasons, the frames cannot be released when subjected to downward- acting load from above.

Model 2080 safety frames offer four possible configurations:

1. Frames completely lowered,

2. Frames completely raised,

3. Frame raised at headend, lowered at footend,

4. Frame lowered at headend, raised at footend.

Although these four configurations are theoretically possible, in practice we recommend the use only of the first two!

1. With safety frames lowered, the bed is completely accessible. It looks like a normal bed and hence creates a pleasant sense of well-being.

2. Completely raised safety frames offer maximum protection against rolling out of bed.

3. With headend raised and footend lowered, the safety frames mark the outer limits of the bed while still giving the occupant the freedom to come and go at will. This setting is, however, not recommended except in special cases.
4. Voelker does not recommend the headend lowered and footend raised configuration at all.

6.18.3. Safety frames, Model 3080

The 3080 nursing bed is equipped with double-section, folding safety frames on each side. They are fully integrated into the mattress-frame and hence reposition automatically when the mattress-frame is being adjusted. When not in use the frames are pushed out of sight beneath the mattress-frame. Carers have free access to the bed when fitting accessories, and there is also unrestricted floor clearance for lifting gear, even when the bed is fully lowered.
When raise, the frames provide:
- protection for the occupant of the bed
- support when getting into or out of the bed

Raising a safety frame section:

- Pull section horizontally out of its location to end-stop. Fold upwards until vertical and then press downwards about 1 cm to activate safety lock. In this position the height of the safety frames at the headboard can be adjusted by pressing together the button in the middle of the frame while lifting the safety frame into the end-stop position.

Lowering a safety frame section completely:

- Make sure that the height-adjustable safety frames at the headboard are in the lowest position. To lower them press together the button in the middle of the frame while lowering the frame into end-stop position.

  The height of the frame is equal to the height of the mattress, so the frame has not to be lowered completely for treatment.
- Pull out retaining catch at end of mattress-frame and release frame by releasing frame locks
- lift safety frame to end-stop and then fold downwards until parallel to floor,
- push frame fully into its location beneath mattress-frame.

To protect occupant of bed, safety frames can be raised singly or together, as required.

Raising all four sections affords maximum protection of the occupant.

Due to their exceptional stability, the frames can be used as a depository for bedding or as additional support for clinically desirable positioning, eg when carrying out physiotherapeutic treatment.

The frames also encourage autonomous mobility among care-receivers by providing secure support when sitting up and getting out of bed etc.

The safety frame sections can be used in four possible configurations per side:

Lowering safety frame for carer's treatment:

1. Both sections completely lowered
2. Head section raised but only to the height of the mattress. Foot section lowered.
3. Head section raised, foot section lowered (aid to autonomous mobility)
4. Both sections completely raised.

These four configurations make the Voelker 3080 nursing bed exceptionally flexible in use:

1. Completely lowered safety frames gives unrestricted access to the mattress-frame. The bed looks like a perfectly normal bed and hence contributes to a pleasant sense of well-being.
2. The lower heigth of the of the head section frames act as a support for occupants when getting into or out of bed. The carer has access to the occupant, but the frames have not to be lowered completely for each treatment. The small head section can stay in the higher position without disturbing the occupant.
3. With head sections raised and foot sections lowered, the frames act as a support for occupants when getting into or out of bed. In this position, the frames give care-receivers a greater sense of security by marking the limits of the mattress-frame, while at the same time not restricting their freedom to come and go at will.
4. When all four sections are raised, occupants enjoy the maximum possible protection against falling or rolling out of bed.

Caution:

Horizontally extended frames may not carry loads in excess of 15 kg (33 lbs)!

6.19. Mains power supply cable

Take care not to damage the mains power supply cable when moving the bed. To do this pull the plug out of the mains socket, lay the mains cable over the bed head and put the plug securely between the mattress frame and bed head.

Caution:

Check cable regularly for damage!

If cable is damaged, bed may not be used, or must be taken out of use at once!

7. Functional testing

Carry out the following functional test to identify possible malfunctioning of the bed. This test ensures that you put a safe and operationally efficient bed into use. Possible risk to care-receivers and/or others is thereby reduced to a minimum.

The functional test should be carried out in the following circumstances:

1. When the bed is put into service for the first time.
2. When the bed is put back into service after a period in storage.
3. After each repair and maintenance procedure which might have influenced the electrical features or the side rails.
4. At least once a year.

The test comprises the following procedures that **must** be carried out on **all** adjustment Functions. Always carry out the adjustment tests until limit end stop position is reached and the motor turns off.

Status: May 2002

Technical security check-up of Voelker nursing beds

Identification No.			Accepted	Not accepted
Step		Annually		
Visual inspection				
	All inscriptions readable?			
	Instruction and service manual available?			
	Base frame	B		
	Mattrass frame	F		
	Grab handle fixing	F		
	Mains supply cable	B		
	Strain relief	B		
	Power plug	B		
	Internal cabeling	B		
	Wrap connection fitting	S		
	Motor-/transformer chassis	B		
	Manual control unit chassis	B		
	Manual control unit cable	B		
Operational test				
Brakes	Castor extension and retraction	X		
Side frames	Locking	X		
	Deformation	X		
	Wastage	X		
Drive	Mattress frame	X; M		
	Chassis	X; M		
	Raster adjustment foot	X		
Replacement	9-Volt-battery	A		
	Replaced?	Yes/no		

A:	To be replaced every two years
B:	Check for damage
F:	Check for deformation
M:	Check the function of the motor and the limit switch; does the motor tun off when reaching the end mark?
S:	Check for correct fit
X:	General function control

Accessory check-up, like grab handle,...	
Standby-unit-leakage-current < 5mA	
Measuring instrument	
Result of the check:	

Date of check-up: Signature of tester:

Next check-up: Tester's name:

Replace complete Okimat if the directly connected mains power supply cable is damaged! Otherwise replace damaged cable only.

Warning:

Ensure that all functions are working properly. In the event of malfunctioning, the bed must be taken out of service at once and the defect corrected.

Warning:

Replace defective parts as soon as possible and do not use the bed unit repair.

8. Cleaning and disinfection

Wipe disinfection

The wipe disinfectants listed in the DGHM List of 01.07.1994 (Deutsche Gesellschaft für Hygiene und Mikrobiologie = "German Society for Hygiene and Microbiology") can be used in the concentrations recommended in the relevant manufacturer's instructions.

The use of solvents is **not** permitted.

Do not use abrasive cleaners, scouring pads or similar cleaning aids.

Do not use organic solvents such as halogenated/aromatic hydrocarbons and ketone.

Follow these instructions when using cleaning agents and/or disinfectants:

- Decontamination solutions in the prescribed concentrations may **not** exceed or fall below a pH-value of 6-8.
- They may **not** contain any corrosive or caustic substances.
- They may **not** contain substances that alter the characteristics of surface or the properties of plastic or synthetic materials.
- They may **not** affect the properties of lubricants.
- Water hardness may **not** exceed 0.9 mmol/l (to 5° d)

(Fully desalinated water may **not** be used.)

Chloride	less than	100 ppm
Silicate as Sio2	less than	15 ppm
Iron	less than	0.05 ppm
Manganese	less than	0.01 ppm
Copper	less than	0.05 ppm

The following disinfectants and rinsing agents have been successfully tested by Voelker:

Bed frames, Trolleys, Bedside cabinets, Theatre shoes, Utensils	**Products**	**Function**	**Active ingredient**	**Concentration**	**Dosage**
		VDV process			
Mattresses	Weigosept disinfectant spray	Alcoholic spray disinfectant	Glyoxal, alcohol	100% 15 min. reaction time	Dosage plant
Beds Bedside cabinets	Neoform D plus Weigosept DF Neoquat 8	Disinfection by wiping	QAV, glayoxal Aldehyde, QAV QAV	0,5% 4 hours reaction time 0,5% 4 hours reaction time 1% 4 hours reaction time	Dosage aid Dosage aid Dosage aid

DR. WEIGERT
Chemische Fabrik Dr. Weigert (GmbH & Co.)
Mühlenhagen 85, 20539 Hamburg, Germany,
Telephone 040/78960-0 . Fax 040/78960-120 . Telex 2 162 114

This information reflects the current state of our knowledge and experience. It does not exonerate users from carrying out their own tests and trials as conditions (eg water hardness) differ locally. No legally binding guarantee of any kind is granted or can be assumed.
We accept no liability for possible damage to surfaces arising from the use of unsuitable cleaning agents or disinfectants, from the use of incorrect concentrations or from the unsatisfactory care of the bed.

Risk of electric shock, fire or breakdown

Only clean and disinfect the bed after it has been switched off, i.e. when it has been disconnected from the mains power supply (pull plug out of socket).
Protect electrical components from water!

Spray wands

Cleaning and disinfection with spray wands is prohibited.

9. Accessories

9.1. Accessories for nursing beds

Voelker supplies an extensive range of easy-to-fit accessories to achieve the greatest possible flexibility. For further details of their use, please see the following description in which you will find the part numbers as well. For more detailed information please have a look in our catalogue for accessories. The nursing beds are equipped with a slide bar (T-bar) below both sides of the bed. Accessories fitted to a special sliding adapter on the slide bar can be pushed along the entire length of the bed.

In addition mattresses, lamps as well as an extensive programme of bedside cabinets and servers, tables, chairs, easy chairs and cupboards are available to match Voelker nursing beds. Please ask for our information brochures.

Description of individual accessories

Sliding trays are used as working surfaces and for serving care-receivers' food. When not in use they are normally hung on to the footboard. In use, they are placed across the raised safety frames, where they can be slid back and forth at will.

ZP- 2052: Sliding tray for mounting on safety frames, matches 2080 S nursing bed (see illustration below)

ZP-2052 FS: Sliding tray for mounting on safety frames, matches 2080 FS nursing bed.

The bed occupant's grab-handle helps care-receivers to sit up or lie down in bed. It is easily fitted into drop-in fixing locations situated at each corner of the bed between the headboard and the mattress.

ZP-3053: Grab handle, powder paint-coated tubular steel, push-in fixing on both sides of bed head, swivelling, height adjustable triangular handgrip (see illustration below)

Warning:
Owing to the high risk of injury by tipping over, the grab-handle is **not** intended to lift occupants in and out of bed and it **may never** be used for this purpose.

Safety frame protective covers are softly padded, wipe-clean, pull-over covers for the safety frames that protect care-receivers from injury caused by coming into contact with the frames. All protective covers are made of foam padding with disinfectant-resistant leatherette covers and are supplied as a complete set for one nursing bed.

ZP-2056: Protective cover for safety frames, one piece for 2080 nursing bed (see illustration below).

ZP-3056 B: Protective cover for safety frames, one piece for 3080 nursing bed (see illustration below).

ZP-3056 C: Protective cover for safety frames as shroud for 3080 nursing bed,

length 200 cm (see illustration below).

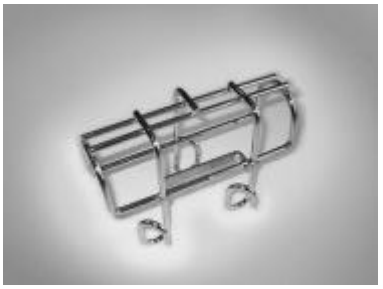
ZP-3056 C 2.2: Protective cover for safety frames as shroud for 3080 nursing bed, **length 220 cm.**

The **drip-feed stands** accept up to four drip-feed bottles. They are chromium-plated, height-adjustable and are snapped into an adapter sleeve at the head of the bed or into an adapter on the slide bar.

ZP-3057: Drip feed stand, 4 hooks, height adjustable, chromium-plated, one hand operation. (see illustration below).

Drip feed holder with three hooks. This can be attached to the grab-handle pole to accept up to three drip-feed bottles.

ZP-3055: Drip feed holder for mounting on grab handle, including safety clip (see illustration below).



The **bedding tray** is a pull-out tray fitted to the foot of the bed that can be used to hold bedding while the bed is being made up. When not in use, the tray is pushed out of sight beneath the bed.

ZP-3063: Bedding tray, pull-out mounting beneath foot of bed, with retaining bar.

ZP-3063 SB: Bedding tray with control box, pull-out mounting beneath foot of bed, with retaining bar (see illustration below).

ZP-3069A: Bedding tray with lockable control box, pull out mounting beneath foot of bed, with retaining bar.

Warning:
Don't sit or stand on the bedding tray!
Maximum load: 12 kg (ca. 26 lbs).

The **general-purpose hook** is hung on to the slide bars below the sides of the bed. It can be used to attach various suspended accessories to the bed.

ZP-3062: General purpose hook for hanging onto side-bearers to accept urine bags etc. (see illustration below)

Additional accessories

ZP-3069: Drawer for control box, pull-out mounting beneath the foot of bed.

ZP-3066: Handset holder for 3080, flexible pole, snap in fixing to side of seat section (see illustration below).

ZP-2066: Handset holder for 2080, flexible pole, snap in fixing to side of seat section.

ZP-3051: Mounting for fixing system

ZP-3068: Wall buffer wheels for fitting to bed head, powder paint-coated grey,
tyres black.

ZP-3059: Protective cover for snap-in spacer (see illustration below).

ZP-3064 K: Raisable safety frame for head end of 3080 nursing bed, **length 200 cm** (see illustration below).

ZP-3064 K 2.2: Raisable safety frame for head end of 3080 nursing bed, **length 220 cm.**

ZP-3064 F: Raisable safety frame for foot end of 3080 nursing bed, **length 200 cm.**

ZP-3064 F 2.2.: Rasisable safety frame for foot end of 3080 nursing bed, **length 220 cm.**

ZP-3067: Snap-in spacer for snapping into seat section, plexiglas (see illustration below)

ZP-3054: Urine bottle basket, chromium-plated, for hanging onto side-bearers (see illustration below).

ZP-3065 K: Wall distance piece short, for hanging onto side-members (see illustration below)

ZP-3065 L: **Wall distance piece long**, for hanging onto cross-members.

10. Service and maintenance

Voelker nursing beds need very little maintenance as only maintenance-free motors and electrical/electronic components are used. All moving parts of the lifting gear, compact drive and safety frames are permanently lubricated during manufacture. During normal use and cleaning, these parts never require relubrication. The manufacturer assumes, however, that nursing beds will be regularly inspected once a year and any damage such as loose screws or breakages will be dealt with at once.

Please consult this instruction and service manual, which contains exploded drawings, spare part lists, wiring diagrams etc, for further information.

Replace the mattress-frame drive battery at least once every 2 years. Use only high-quality branded makes to ensure optimal performance.

For safety reason, we recommend battery replacement after every use of the battery Back-up system. Please note the battery may not be disposed of in domestic waste (see 2.6. Disposal)

Should the 9 V battery fail (bed functions no longer work), then press the green button on the power plug to reinstate all electrical bed functions. The battery must then be renewed to reinstate the fast release facility.

Völker AG accepts liability for the safety and correct functioning of its beds only when repairs are carried out by Voelker Service staff or by a person authorised by Voelker to carry out such work.

11. Safety regulations for service and maintenance

These regulations are to be read and strictly obeyed!
Additionally, the safety regulations to be found in the operating instructions are to be read and obeyed!

11.1. Before beginning maintenance work

Those responsible for carrying out maintenance work must have read this instruction and maintenance manual in detail before beginning work.

Before beginning servicing or repair work, those responsible must be thoroughly instructed in the operation of the bed and made expressly aware of the risks involved in assembling and disassembling each subassembly, as described in this maintenance manual.

The nursing beds are not explosion-protected. For this reason, they may only be serviced in environments free of inflammable materials and/or substances.

Warning: Use only factory original parts for the repair of this bed.
If possible bed must be repaired in lowest position.
Unplug bed during service or cleaning.

11.2. Checking the operational safety and condition of the bed

The bed must be checked for operational safety after the completion of each maintenance procedure and/or repair. This is to ensure that the bed can be used as intended without endangering residents and staff (see Chapter 7. Functional testing). Should no servicing or repair work have been necessary, then it is sufficient to carry out a functional test once per year.
All electrical components (particularly mains power supply cable, manual control unit, power plug) must be regularly inspected for damage and safe routeing (should damage be found, then the bed is to be taken out of use and the damaged parts replaced without delay)!

12. Description of subassemblies, Nursing bed Models 2080, 3080

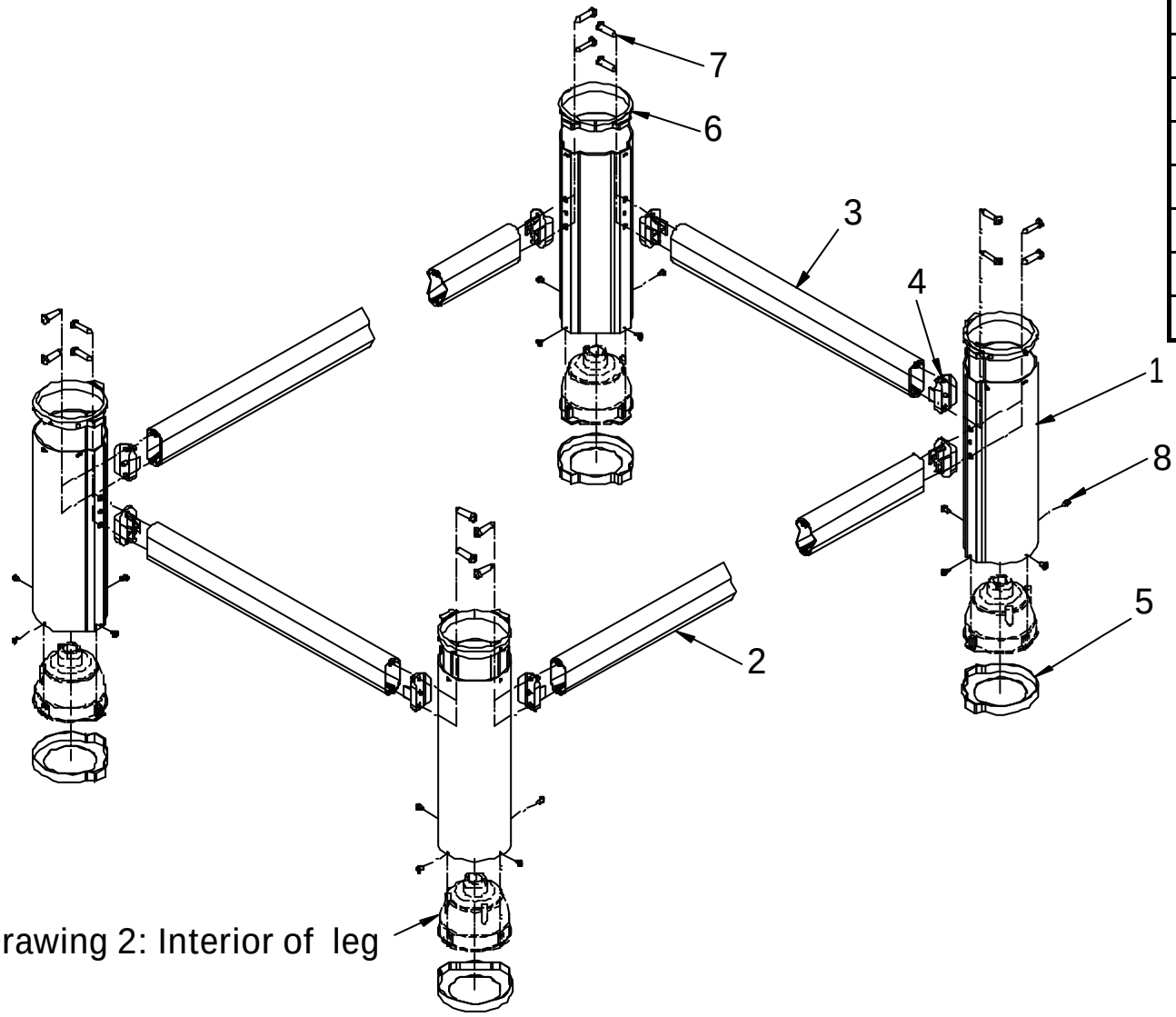
Exploded drawings of the individual subassemblies are provided in overview on the following pages.

With their help, you can quickly find the part you are looking for.
You can get the **name of the part** and the **order no.** from the **parts list** accompanying each drawing.

- parts marked with ***** depend on length, width and model

parts marked with **~** apply only to Model 3080

Drawing 1: Chassis **54**
Drawing 2: Interior of leg **55**
Drawing 3: Lifting jack cross-member **57**
Drawing 4: Model 2080 ..... **59**
Drawing 5: Bed superstructure + safety frames **60**
Drawing 6: Model 3080 ..... **62**
Drawing 7: Bed superstructure 3080 ..... **63**
Drawing 8: Mattress-frame 2080, 3080 ..... **64**
Drawing 9: Back section **65**
Drawing 10: Upper and lower leg section **65**
Drawing 11: Safety frame back section **74**
Drawing 12: Safety frame foot section **75**

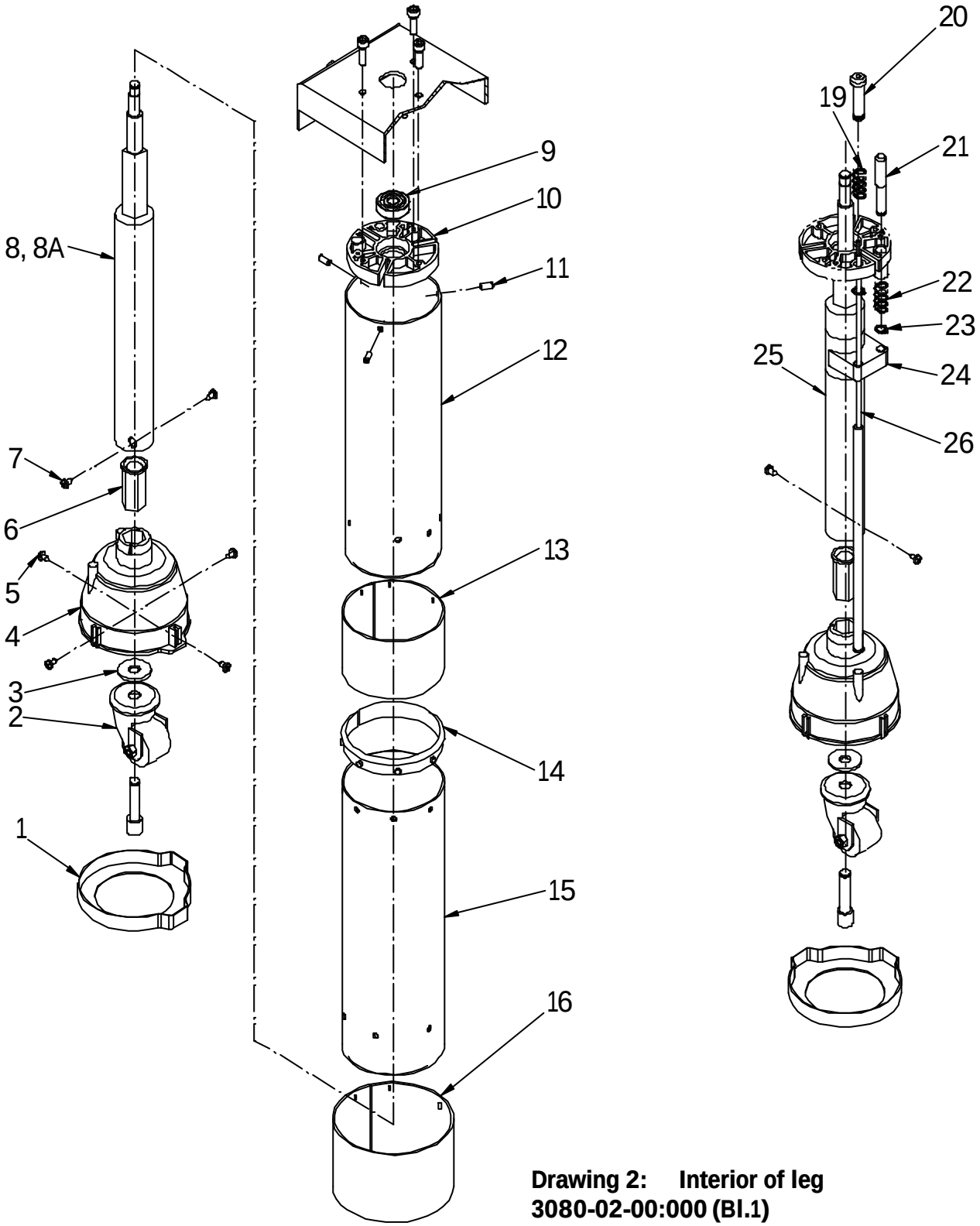


Drawing 2: Interior of leg

Pos.	Qty.	Order No.	Description
1*	4	3080-01-00:010	outer leg casing
2	2	3080-01-00:020	side member
3	2	3080-01-00:030	cross-member
4	8	3080-01-00:040	cross-member adapter
5	4	3080-01-00:050	foot cap left + right side
6	4	3080-01-00:080	sliding ring, leg casing
7	16	DIN 7981 C - 6,3x32	oval-head metal screw
8	16	DIN 7981CH-3,9x9,5	oval-head metal screw

Drawing 1: Chassis

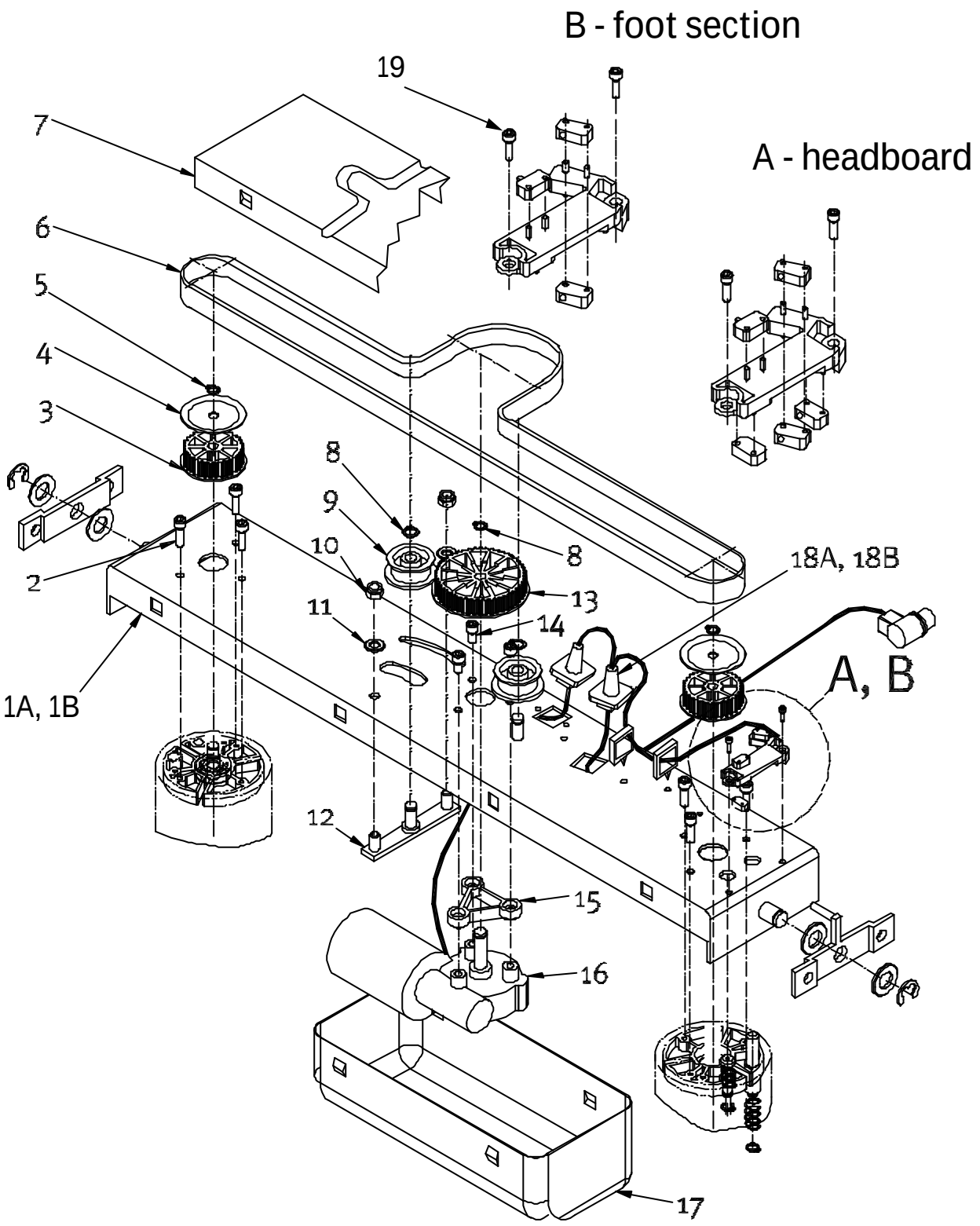
3080-01-00-000



Drawing 2: Interior of leg 3080-02-00:000 (Bl.1)

Pos.	Qty.	Qty./ Bed	Order No.		Description
1	1	4	3080-02-00:010		foot cap
2	1	4	3080-02-00-090		castor
3	1	4	3080-02-00-150		washer
4	1	4	3080-02-00-110		castor bell
5	4	16	3080-02-00-180	3.9X9.5 DIN 7981-CH	screws, castor bell
6	1	4	3080-02-00-050		castor bush
7	2	8	3080-02-00-190	3.9X6.5 DIN 7981-FH	screws, spindle cartridge
8*	1	2	3080-02-00-030		spindle cartridge 269 mm
9	1	4	3080-02-00-070		ball bearing
10	1	4	3080-02-00-120		bearing seating, inner leg
11	3	12	3080-02-00-170	M5X12 - DIN 914	screws, bearing seating
12*	1	4	3080-02-00-020		inner leg 269 mm D: 86.6 mm
13	1	4	3080-02-00-140		intermediate ring, inner leg
14	1	4	3080-02-00-080		sliding ring, middle leg
15*	1	4	3080-02-00-010		middle leg 279 mm D: 93 mm
16	1	4	3080-02-00-140		intermediate ring, middle leg
19	1	2	3080-02-00-061	tension spring 1X10X21,4	tension spring, short
20	1	2			end-stop switch trip pin 1
21	1	2			end-stop switch trip pin 2
22	1	2	3080-02-00-060	tension spring 1X10X31,6	tension spring, long
23	2	4	3080-02-00-160	Size 6 - DIN 6799	retaining disk
24	1	2	3080-02-00-200		end-stop switch buffer
25*	1	2	3080-02-00-040		spindle cartridege with rod, 269 mm
26	1	2			end-stop switch trip pin

Drawing 2: Interior of leg (Bl. 2)



Lifting jack cross-member head (A illustrated) (Bl.1) Drawing 3: Lifting jack cross-member Lifting jack cross-member foot (B)3080-03-00:000

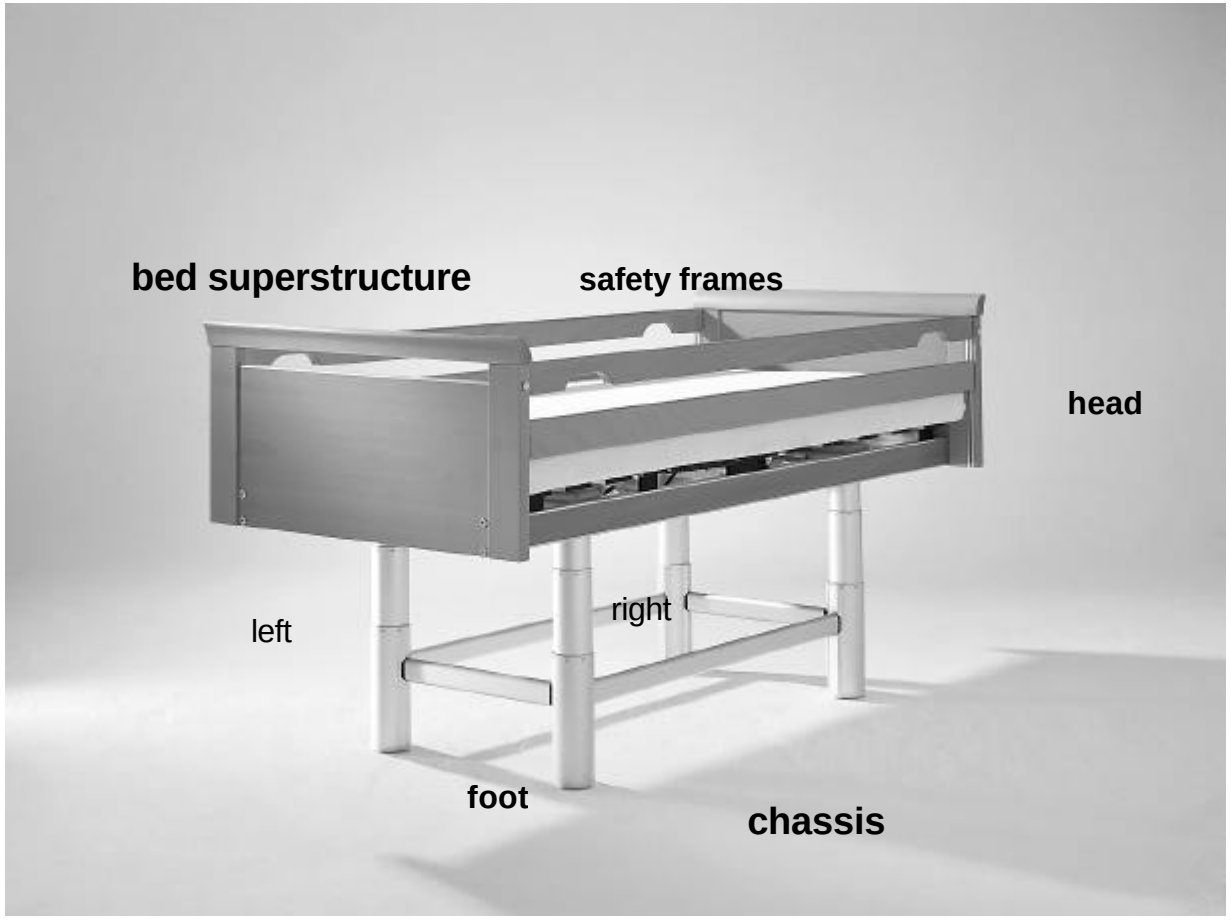
Pos.	Qty.	Qty./Bed	Order No.		Description
1A	1	1	3080-03-00-011		lifting jack crown cross-member, head
1B	1	1	3080-03-00-021		lifting jack crown cross-member, foot
2	6	12	3080-03-00-150		screws, jack cross-member
3	2	4	3080-03-00-070		pulley spindle
4	2	4	3080-03-00-080		pulley
5	2	4	3080-03-00-230	Size 7 - DIN 6799	retaining disk
6	1	2	3080-03-00-091	HTD1420-5M-12-610	toothed belt
7	1	2	3080-03-00-130		cover top
8	2	4	3080-03-00-240	Gr8 - DIN 6799	retaining disk
9	2	4	3080-03-00-120		tensioning wheel
10	2	4	3080-03-00-180	M8 - DIN 934-8	nuts -S
11	2	4	3080-03-00-170	VS 8mm	bush
12	1	2	3080-03-00-030		tensioning wheel support
14	3	6	3080-03-00-200	M6X20 - DIN 7984	screws for motor fixing
16	1	2	3080-03-00-041	0 390 257 651	motor HV01
18A	1	1	3080-03-00-142	12632	cable loom, head section
18B	1	1	3080-03-00-143	12631	cable loom, foot section
19					screws for end-stop switch buffer
	2	4	3080-03-00-190	8mm	star lock caps

Drawing 3:

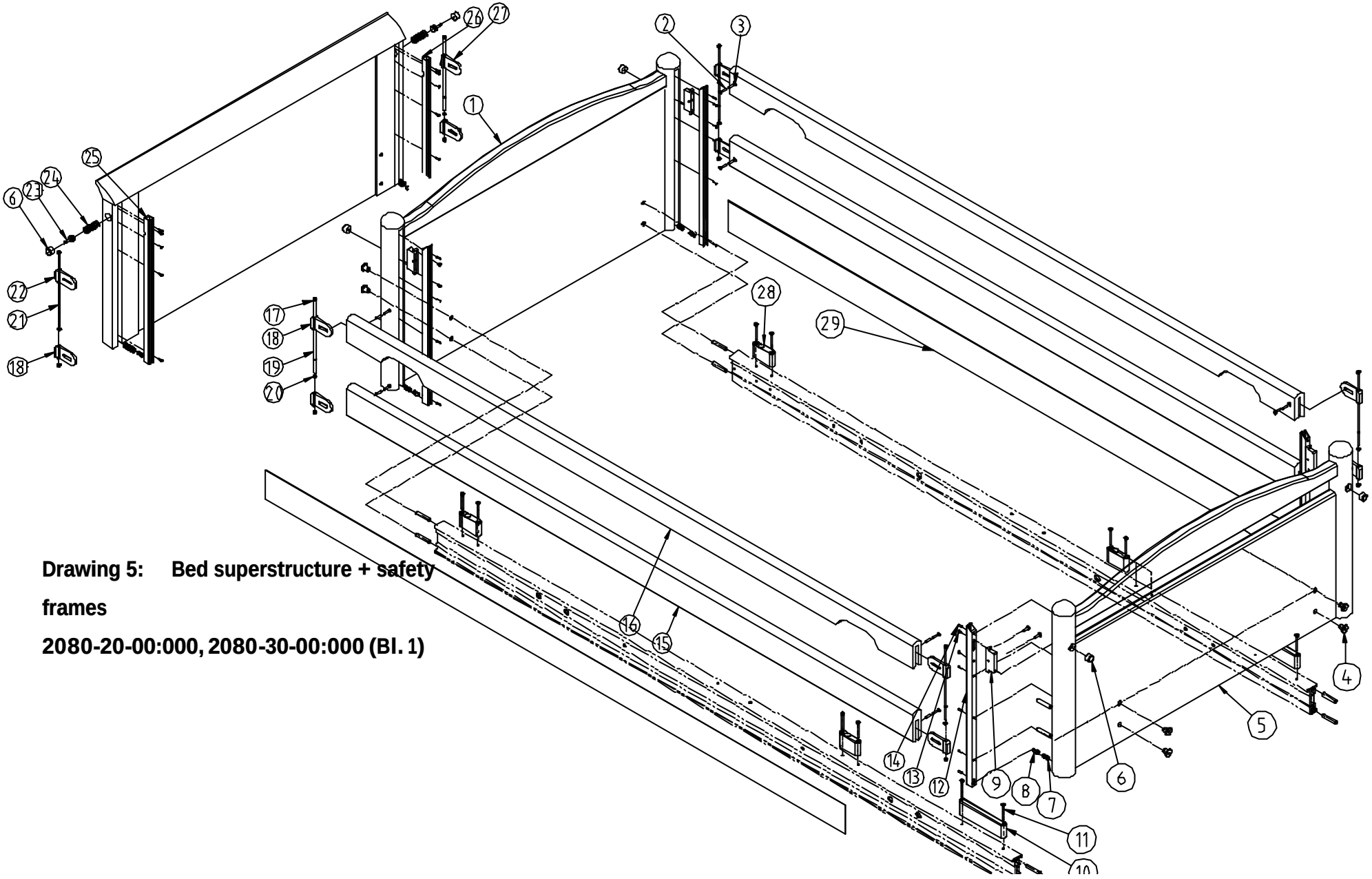
Lifting jack cross-member head (A illustrated) (Bl.1)
Lifting jack cross-member foot (B)
3080-03-00:000

Remark: Pos. 13, 15, 16 and 17 are build in one unit which has to be ordered as 3080-03-00-041 (0 390 257 651) Motor Hv o1.

Model 2080



Drawing 4: Model 2080



Drawing 5: Bed superstructure + safety frames

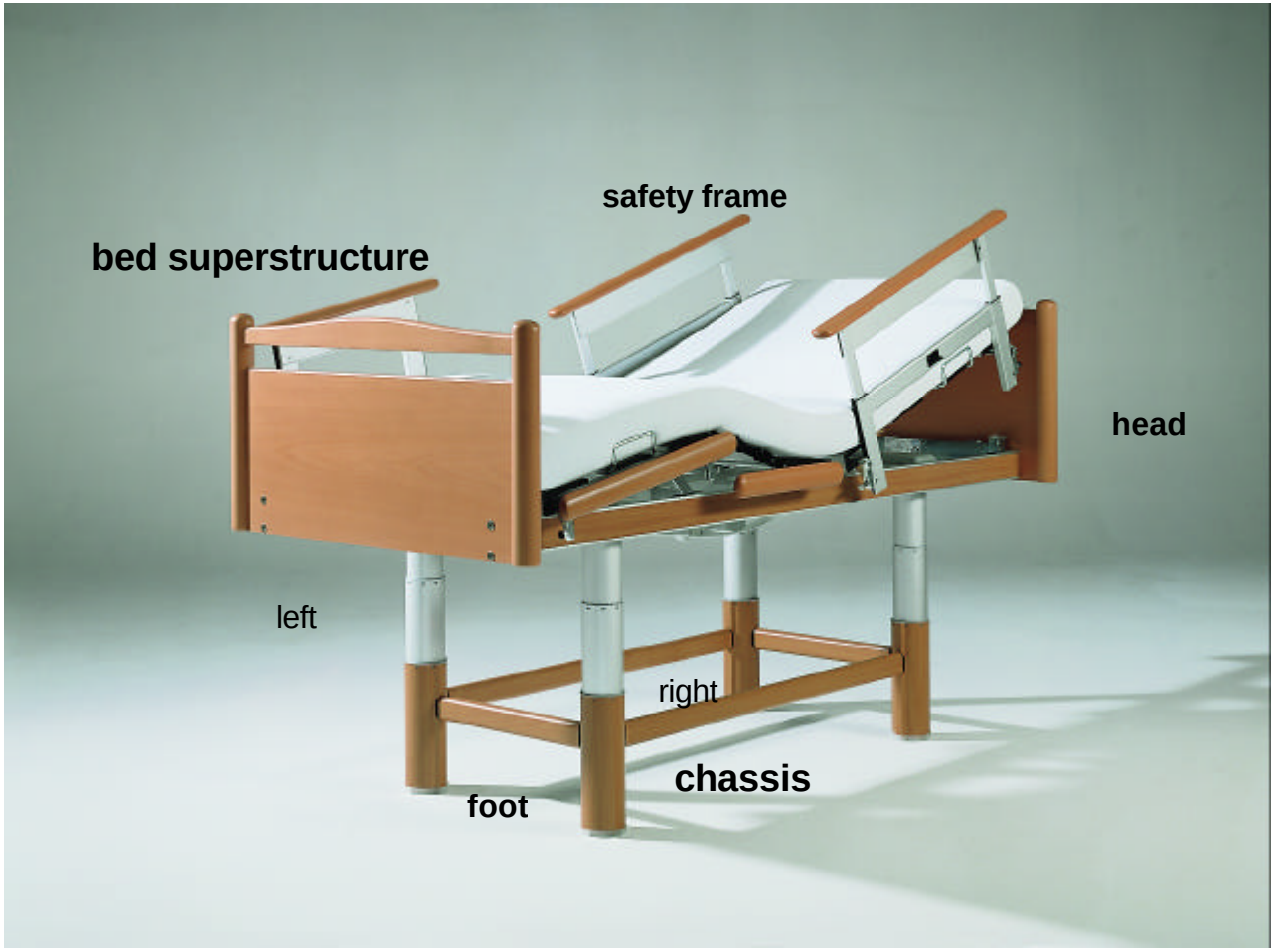
2080-20-00:000, 2080-30-00:000 (Bl. 1)

Pos.	Qty.	Order No.	Description
1*	1		headboard
2	8	3080-04-04-62-DIN 965 - M4x22	screws for upper, lower bar
3	8	M4 x 5 x 15	threaded sleeve, inside
4	8	3080-03-00-210	sleeve nut M8
5*	1		footboard
6	4	3080-04-04-50	release button
7	4	3080-04-04-80	tension spring for stop pin
8	4	3080-04-04-70	stop pin
9*	4	3080-04-04-40	ratchet lock
10	2	3080-04-00-140	spacer piece, lower lock 2080 high
11	12	6x55 DIN 7505 A-Torx	screws for spacer shims
12*	4	3080-04-04-30(31)	sliding rail 475
13*	8	M3X6 DIN 965	screws for ratchet lock
14	20	2.5X16 DIN 7505	screws for sliding rail
15*	2	3080-04-04-20(21)	safety frame lower bar 1960 (1978)

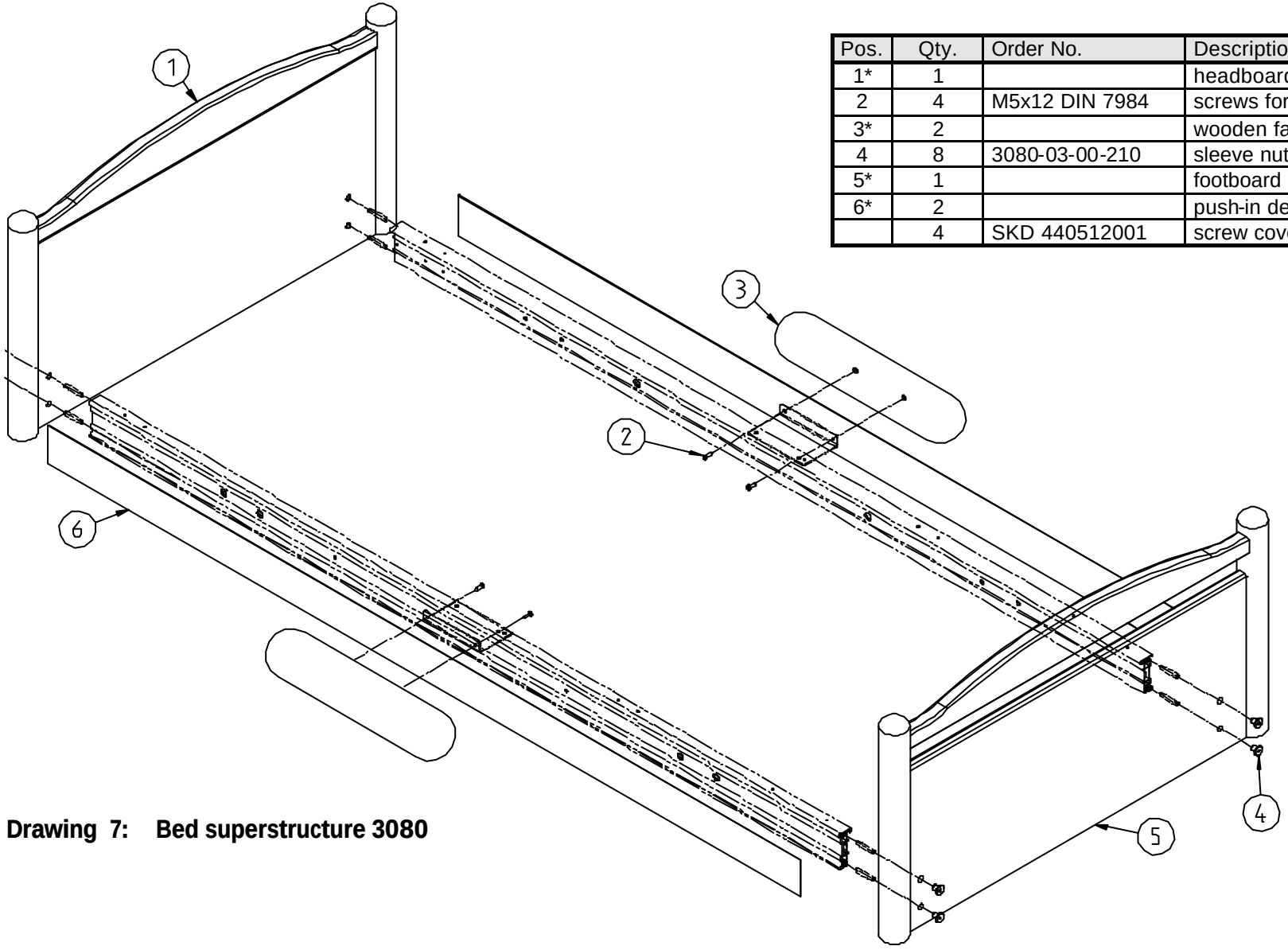
Pos.	Qty.	Order No.	Description
16*	2	3080-04-04-12(13)	safety frame upper bar 2002
17	8	DIN 985 - M4	nut
18	8 (4)	3080-04-04:201	gliding piece normal
19	4	3080-04-04-100(101)	guide bar 222
20	4	DIN 125 – 4.3	disk
21	4	3080-04-04-100(101)	guide bar 190
22	2	3080-04-04:202	gliding piece right
23	4	2090-30-00:007	lock bolts
24	4	3080-04-04-81	tension spring for lock bolts
25	2	3080-04-04-30(31)	sliding rail 430 right
26	2	3080-04-04-30(31)	sliding rail 430 left
27	2	3080-04-04:203	gliding piece left
28	4	3080-04-00-130	compensating piece, back rest, high
29	2		push-in strips 2080, 3080
30			

Drawing 5: Bed superstructure + safety frames
2080-20-00:000, 2080-30-00:000 (Bl. 2)

Model 3080

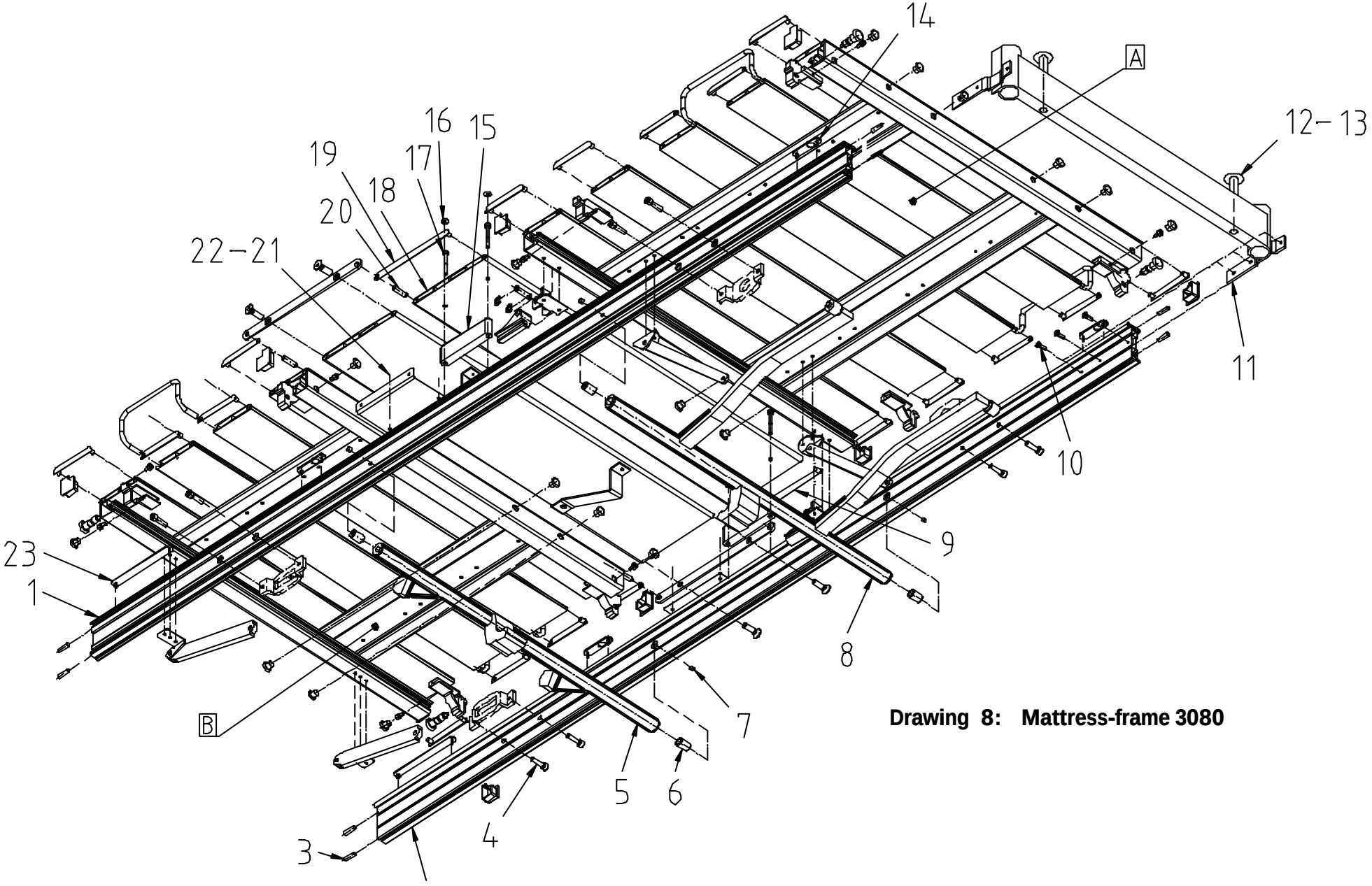


Drawing 6: Model 3080

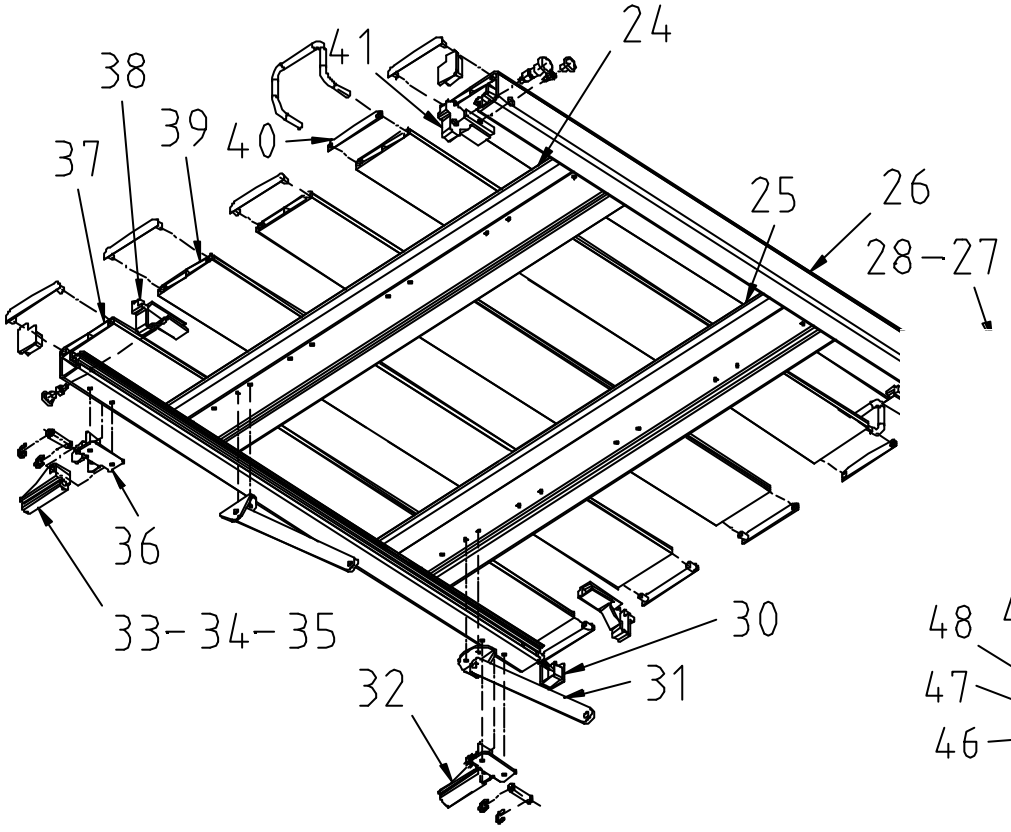


Pos.	Qty.	Order No.	Description
1*	1		headboard
2	4	M5x12 DIN 7984	screws for fender, middle
3*	2		wooden facing, central piece
4	8	3080-03-00-210	sleeve nut M8
5*	1		footboard
6*	2		push-in decorative strips 2080, 3080
	4	SKD 440512001	screw cover M5

Drawing 7: Bed superstructure 3080

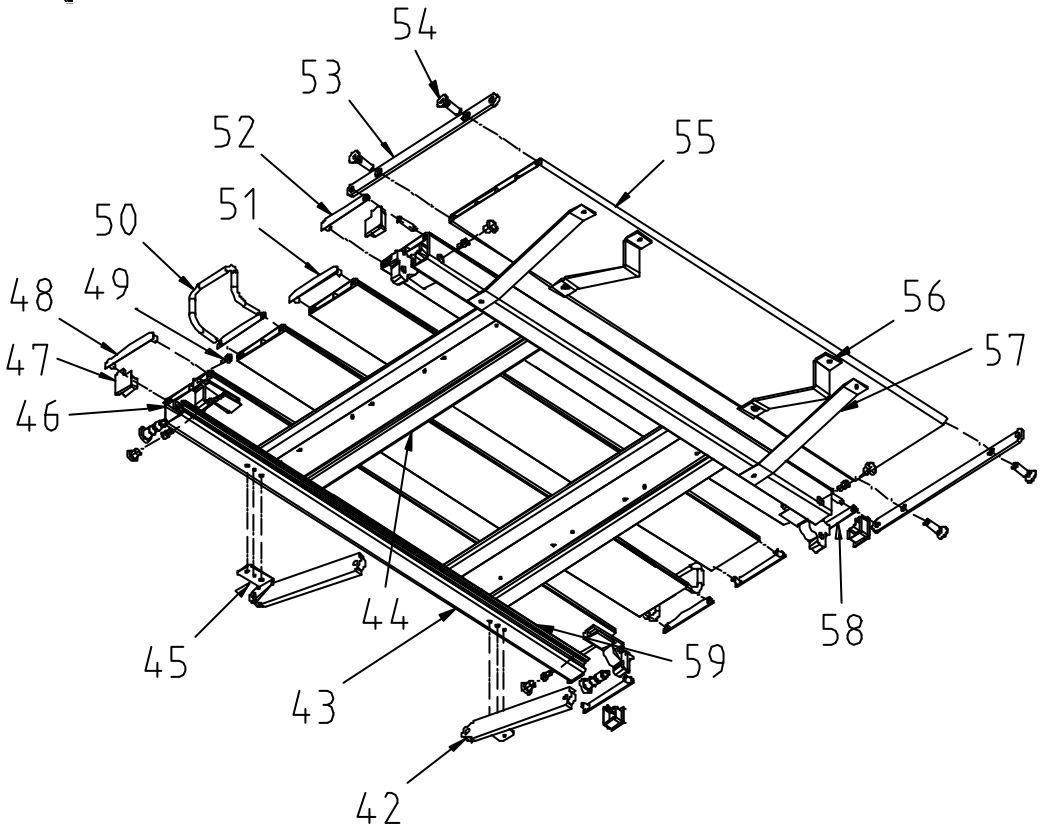


Drawing 8: Mattress-frame 3080



Drawing 9: Back section

Drawing 10: Upper and lower leg section



Pos.	Qty.	Order No.	Description
A*	1	3080-04-00-000	mattress-frame, back section
B*	1	3080-04-00-000	mattress-frame, lower leg section
1*	1	3080-04-00-053	side-bearer 3080 r/2002
2*	1	3080-04-00-052	side-bearer 3080 l/2002
3*	8	M8X45 DIN 976	threaded pin
4	8	DIN 912-M8x12	screws for side-bearer
5	1	3080-04-00-061	frame anchorage (foot)
6			
7			
8	1	3080-04-00-061	frame anchorage (head)
9	1	3080-04-00-090	covering cap, seat section, right
10	6	5x20 DIN 7505 Torx	screws for double mounting bracket
11	1	3080-04-00-180	double mounting bracket
12	2		lamp sleeve
13	2	5x20 DIN 7505 Torx	screws for lamp sleeve
14~	4	3080-04-00-150	spacer shim for back rest 3080 flat
15	2	3080-04-00-120	spacer shim, seat section high
16	4	KT031; 5020-10-00:011/04	push-in covers 3 block
17	4	3080-04-00-204	Torx panhead for mattress-frame 6X60 DIN7505 B-Torx
18*	1	3080-04-00-080	cross-member B = seat section
19	1	3080-04-00-090	covering cap seat section left
20	4	3080-04-00-230	knurled bolt for articulated joint
21~*	2	3080-20-10:027/03	fixing bracket
22~	4	5.5X19 DIN 7981	metal screws for bracket
23~	2	3080-04-00-160	spacer slide for 3080 flat

Drawing 8, Drawing 9, Drawing 10: Mattress-frame 2080, 3080 (Bl. 2) 3080-20-00:000

Pos.	Qty.	Order No.	Description
24*	1	3080-04-00-090	long bearer, back section, right
25*	1	3080-04-00-090	long bearer, back section, left
26~*	2	3080-04-00-060	cross-member, S 1A 3080
27~	8	M6x10 DIN 912	screw, safety frame lock
28~	8	KT031; 5020-10-00:011/04	push-in cover 3 black
29~	4	3080-20-10:029/04	pull catch ZS-10x1-K-OA-V
30~	4	3080-04-00-100	cover, cross-member B left
31	2	3080-04-00-070	fixed swivel bracket with mattress return lever
32	1	3080-04-00-110	slide, mattress displacement , left
33	1	3080-04-00-110	slide, mattress displacement , right
34	2	3080-20-10:010/04	bolt, mattress displacement fixing
35	4	DIN 6799 Gr. 8	lock washer
36~	2	3080-20-10:006/04	fixed swivel bracket, slide, 3080
36	2	3080-04-00-190	fixed swivel bracket II, slide 2080
37~*	2	3080-04-00-060	cross-member S 1A 3080
38~	4	3080-20-10:007/04	safety frame lock, left
39*	7 (3)	3080-04-00-060	cross-member S 1A
40~	4		covering cap 2B cross-m. S
41~	4	3080-20-10:006/04	safety frame lock, right
42	1	3080-04-00-210	Rastomat with bracket 2080 left
42~	1	3080-04-00-212	Rastomat with bracket 3080 left
43	1	3080-04-00-091	long bearer, lower leg sect. left
44*	1	3080-04-00-091	long bearer, lower leg sect. right
45	1	3080-04-00-211	Rastomat with bracket 2080 right
45~	1	3080-04-00-213	Rastomat with bracket 3080 right
46~*	2	3080-04-00-060	cross-member S 1A 3080
47~	4	3080-04-00-100	covering cap cross-member B right
48			
49~	8	M5x6 DIN 912	locking screw
50~	4	3080-20-10:016/04	handle
51*	12 (8)	3080-04-00-080	cap cross-member S Standard
52	1	3080-04-00-090	cap cross-member A1 right

Pos.	Qty.	Order No.	Description
53	2		articulated joint
54	4	3080-04-00-202	screws for articulated joint M10X16 ISO 7380
55*	1	3080-04-00-083	cross-member B = upper leg section/2002
56*	2 (4)	3080-04-00-170	compensating piece for foot cross-member
57~	2	3080-04-00-225	swivel stop 180° 3080
57	2	3080-04-00-220	swivel stop 180° 2080
		6 X 8 mm	rivet for swivel stop
58	1	3080-04-00-090	covering cap cross-member A1 left
59~*	4		slide bar for frame
	1	3080-20-10:035/04	handle 2080
	1	3080-20-10:036/04	handle 3080MH
	16	3080-04-00-090	covering cap long member
		3080-04-00-201	rivets for cross profile 4,8 X 9 mm DIN 7337
		4.8 X 9 mm Senk.	rivets for bracket
	48	DIN 7337-4,8x8	blind rivet A Al/St G 4,8x8
	4	DIN 7337 B 4,8x9	countersunk blind rivet B Al/St G 4,8x9

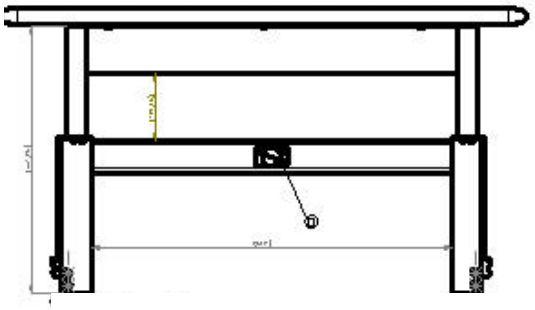
Drawing 8, Drawing 9, Drawing 10:

Mattress-frame 2080, 3080 (Bl. 3)

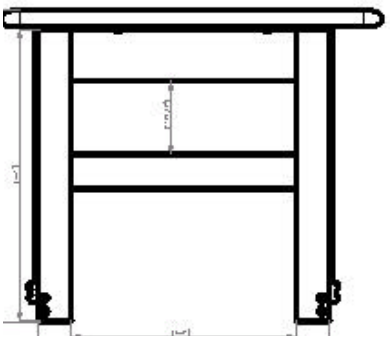
3080-20-00:000

- parts marked with ***** depend on length, width and model

- parts marked with **~** apply only to mattress-frame, Model 3080



Drawing 11: Safety frame 3080 right and/or left, back section 3080-20-10:XXX
Wooden Part: 3080-20-00:403



Drawing 12: Safety frame 3080 right and/or left foot section

3080-20-00-01:XXX

Wooden Part:3080-20-00:404

3080-20-00:000

13. Troubleshooting

The following table contains information about possible faults. The causes of such faults can be incorrect use or normal wear and tear. These functional failures can lead to the injury of residents and staff.

Make sure before looking for faults that the bed is connected to the power supply (plug inserted and socket live)!

Diagnosis	Possible cause	Correcting fault
Bed does not function at all	1. Power plug not inserted or socket dead 2. Battery is not connected or is exhausted 3. Power cut-out relay activated 4. Whole drive unit defect 5. Power cable damaged	(1) Insert power plug or check socket (2) Check battery and replace if necessary see Chapter 14.1 Replacing battery (3) Press green power cut-out button while at the same time activating any bed function with the manual control unit (4+5) Replace whole drive unit see Chapter 14.2. REPLACING OKIMAT 480 (drive unit) (5) Replace power cord when the connection to the motor is not fixed.
Mattress-frame raising/ lowering function faulty	1. Mattress-frame motor defect 2. Manual control unit defect 3. Mattress return lever damaged 4. Mattress displacement slide defect 5. End buffer for slide/bolt faulty	(1) Replace whole drive unit see Chapter 14.2. REPLACING OKIMAT 480 (drive unit) (2) Replace manual control unit see Chapter 14.5. Replacing manual control unit (3) Replace mattress return lever see chapter 14.6 Replacing mattress return lever (4) Replace mattress displacement slide see Chapter 14.7. Replacing mattress displacement slides (5) Replace end buffer for slide/bolt see Chapter 14.8. Replacing

		mounting bracket for slides/bolts

Diagnosis	Possible cause	Correcting fault
Height adjustment faulty – bed cannot be adjusted in height	1. Manual control unit defect 2. Whole drive unit defect	(1) Replace manual control unit see Chapter 14.5. Replacing manual control unit (2) Replace whole drive unit see Chapter 14.2. REPLACING OKIMAT 480 (drive unit)
Height adjustment faulty – Bed can only be raised on one side	1. Whole drive unit defect 2. Cable loom to functioning motor defect 3. Hall transmitter on functioning side defect 4. End cut-out incorrectly set (on non-functioning side)	(1) Replace whole drive unit see Chapter 14.2. REPLACING OKIMAT 480 (drive unit) (2) Replace cable loom see Chapter 14.9. Replacing cable loom (3) Replace chassis motor see Chapter 14.10. Replacing chassis motor (4) Adjust end-stop switch see Chapter 14.11. Adjusting end-stop switch
Height adjustment does not stop in lowest position (sinks on to castors)	1. End cut-out incorrectly set 2. Manual control unit defect 3. Whole drive unit defect	(1) Adjust end cut-out see Chapter 14.11. Adjusting end-stop switch (2) Replace manual control unit see Chapter 14.5. Replacing manual control unit (3) Replace whole drive unit see Chapter 14.2. REPLACING OKIMAT 480 (drive unit)

Bed does not go on to castors	1. Whole drive unit defect 2. Manual control unit defect 3. End cut-out for castor deactivation function defect	(1) Replace whole drive unit see Chapter 14.2. REPLACING OKIMAT 480 (drive unit) (2) Replace manual control unit see Chapter 14.5. Replacing manual control unit (3) Replace cable loom on non-functioning side see Chapter 14.9. Replacing cable loom

Diagnosis	Possible cause	Correcting fault
Bed hard to push around	1. Damaged castor 2. Ball bearing defect 3. Loose swivel castor	(1,2) Replace castor see Chapter 14.4. Replacing castors (3) Tighten swivel castor

Diagnosis (2080)	Possible cause	Correcting fault
Safety frame locking mechanism no longer works	1. Safety locking/side rail is damaged 2. Locking mechanism does not work 3. Glider is damaged	(1+2) Replace the safety locking/side rail see Chapter 14.12.1. Replacing safety frame slides (3) Replace the glider see Chapter 14.11.2. Replacing ratchet lock / gliding channel

14. Maintenance and servicing instructions

The manufacturer only accepts liability for the safety, reliability and operational efficiency of the nursing bed if the following points are strictly observed when carrying out regular servicing procedures.

1. Commissioning, repairs, assembly and functional testing may only be carried out by a Voelker Service technician or a person authorised by Voelker.

2. The electrical installation in the room is suitable for the demands made upon it, and the nursing bed is used correctly and as intended.

3. The nursing bed is disconnected from the mains power supply before servicing begins.

4. The castors are set in “park position”.

5. Functional testing is carried out after **each** technical service or after the bed has been out of service for longer periods.

14.1 Replacing battery

1. The 9V battery is located on the OKIMAT 480 next to the entry point of the mains power cable.
2. Remove the battery cap with a screwdriver.
3. Lift the contact tongues from the battery.
4. Pull the battery out of its housing.
5. Place a new 9V battery into the housing.
6. Press the contact tongues on the battery poles
7. **Caution: Ensure poles are correctly connected!**
8. Replace the battery cap and screw it tight.

14.2. Replacing OKIMAT 480 (drive unit)

14.2.1 OKIMAT – one or both mattress-frame elements cannot or not wholly be raised

Order No. : 3080-04-00-480

1. Lift mattress-frame elements and bind back head and foot sections securely together so that they cannot fall down.
2. Disconnect chassis drive unit cable, manual control unit cable and, if necessary, Trendelenburg control box cable and the cable from the rechargeable battery pack from OKIMAT. To do this, first you have to remove the covering cap from the sockets. The covering cap can be removed by using a screwdriver to lever the cap from both sides.
3. Open sliding cover on OKIMAT cover frame mountings by pushing them to one side.

4. Press OKIMAT out below frame mountings (head and foot).
5. Release manual control unit strain relief fitment on OKIMAT.

Procedure:

– Lift cable loop over hook
– after that, you can pull cable out through eye

6. Reconnect manual control unit cable to strain relief fitment on OKIMAT 480.

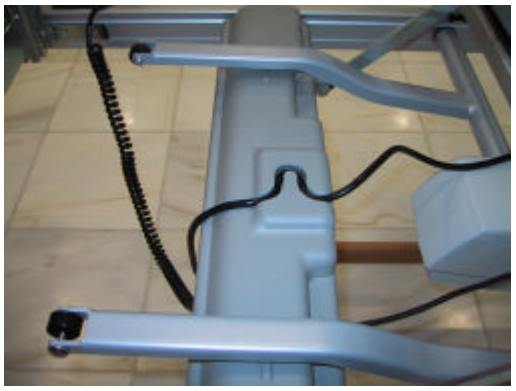
Procedure:

– form cable loop and push it through eye,
– lift loop over hook,
– pull ends of cable to remove slack.

7. From below, place new OKIMAT over frame mountings, taking care that it snaps into its location correctly.

Caution: Marking head section/foot section on OKIMAT.

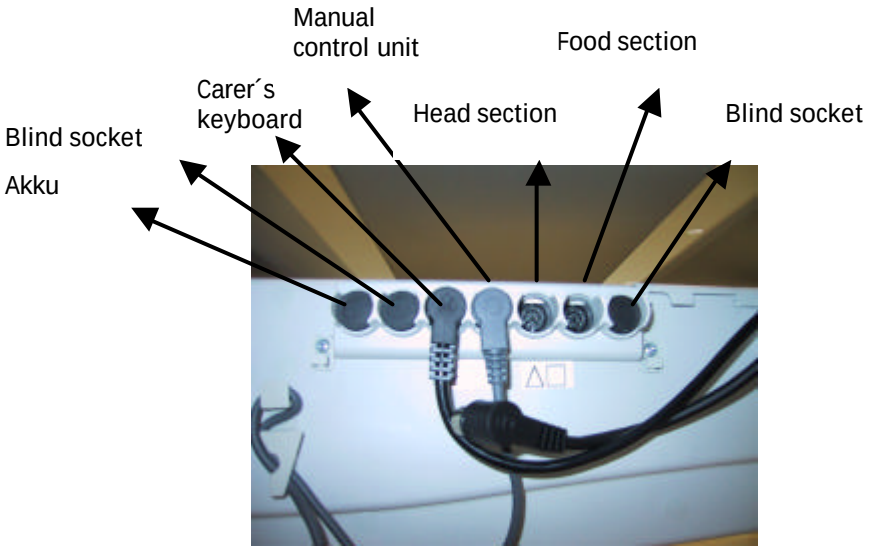
8. Refit sliding cover over opening in fixing location.
9. Lay mains cable in retaining clip on the head end cover on the lifting jack cross-member.



10. Reconnect all plugs to sockets on OKIMAT and replace the socket cap.

Pay attention to markings:

- **Manual control unit** ○
- **Carer´s keyboard** ×
- **Head section** △
- **Foot section** □



11. Carry out functional test.

14.3. Replacing foot cap

Drawing 2: Interior of leg; Pos. 1; Page 55

1. Lower nursing bed to lowest position.
2. Turn bed on side so that foot caps are accessible.

3. Pull foot caps off outer leg casings.
4. Place new foot caps on outer leg casings.
5. Press on the foot caps, making sure they snap firmly into place.
6. Turn bed back into its correct position for use.

14.4. Replacing castors

Drawing 2: Interior of leg; Pos. 2; Page 54

1. Lower nursing bed to lowest position.
2. Turn bed on to its side. The castors on the inner legs of the lifting jack columns are now visible.
3. Using a DIN 911-SW 8 hexagonal socket wrench (Allen keys) with spherical head, undo DIN 912-M10x35 pan-head screws. The castors can now be removed and replaced.
4. Screw in the pan-head screws again, paying special attention to the bush provided.
5. Turn bed back into its correct position for use.

14.5. Replacing manual control unit

1. Remove the socket covering cap from the OKIMAT by levering it with a screwdriver.
2. Disconnect plug with marking “O” from OKIMAT.
3. Release manual control unit strain relief fitment on OKIMAT.

Procedure:

- lift cable loop over hook
- then you can pull cable out of eye
- replace manual control unit with a new one

4. Reconnect manual control unit cable to strain relief fitment on OKIMAT.

Procedure:

- form a cable loop and push it through eye,
- lift loop over hook,
- pull cable ends to remove slack.

5. Reconnect manual control unit cable plug to socket on OKIMAT.
6. Replace the socket covering cap.

14.6. Replacing mattress return lever

Drawing 9: Back section; Pos. 31; Page 65

1. Raise mattress-frame head section and fix it in position so that it does not fall down.
2. Lift spring caps off location pins on chassis with suitable screwdriver.
3. Bore open 2 blind rivets on mattress return lever fixing on underside of mattress-frame.
4. Replace defective mattress return lever with a new one.
5. Rivet fixing firmly in place with 2 blind rivets DIN 7337, 4.8 x 9 mm in the drilled holes provided.
6. Place mattress return lever over pins on chassis and secure with spring caps. Fit spring caps to pins with suitable tool (hammer, pliers, ...).
7. Lower mattress-frame again.

14.7. Replacing mattress displacement slides

Drawing 9: Back section; Pos. 32; Page 65

1. Disassemble head section (eg Pos. 1, Drg. 7).
2. Loosen one securing disk (Pos. 35, Drg. 12, p 28) on slide to be replaced and push out bolt (Pos. 34). Undo side-member screws (Pos. 4, Drg. 11, p 27), but do not remove them. This creates sufficient space between side-member and lifting jack cross-member so that slide can be pushed on to the side-member in the direction of the head section. If necessary, lift head section slightly.
3. Push on new slides and reassemble in reverse order.

14.8. Replacing mounting bracket for slides/bolts

Drawing 9: Back section; Pos. 36; Page65

1. Follow procedure described in previous section, leaving, however, slide on side-bearer. Secure mattress-frame head section against falling down. Remove mounting bracket from mattress-frame element by boring open the blind rivets.
2. Rivet new bracket firmly into place with 2 blind rivets DIN 7337, 4.8 x 9 mm, using the two drilled holes provided and suitable riveting tongs.
3. Lower mattress-frame head section again.

14.9. Replacing cable loom

Drawing 3: Lifting jack cross-member; Pos. 18; Page 57

1. Disconnect cabling from OKIMAT and lift cover (p 57, Drg. Drawing 3, Pos.7) off the relevant lifting jack cross-member.
2. Undo screws (p 57, Drawing 1, Pos. 19) fixing end-stop switch to cross-member.
3. Remove cable from cable securing clip and disconnect from HV01 motor. Pull cable upwards through opening and retrieve connecting plug to chassis motor through the cable opening on top of lifting jack cross-member.
4. Replace defective cable with new one.

Watch out: head section cable loom is different from foot section loom (see p 57; Drawing 3; Pos. A, B).

5. Reassemble using above procedure in reverse order.

14.10. Replacing chassis motor

Drawing 3: Lifting jack cross-member; Pos. 16; Page 57

1. If bed is still height adjustable, raise mattress-frame until there is a space of about 15 cm between chassis cross-member and lifting jack cross-member. Place two wooden blocks of equal size into this space to support lifting jack cross-member after removal of drive belt. If bed is not height adjustable, this step can be carried out before reassembly.
2. Lift top cover (p 57, Drawing 3, Pos.7) off relevant lifting jack cross-member. Pull cabling to chassis motor upwards out of lifting jack cross-member. Lead plug connection to chassis motor upwards through square opening and disconnect.

3. Loosen tensioning wheel support screws (p 57, Drawing 3, Pos. 10), relieve tension on toothed belt and remove belt, beginning at the pulley motor.

Caution: Bed will now sink on to wooden supports – risk of clamping!

4. If bed was not height adjustable, now turn pully spindle anti-clockwise until a suitable wooden support can be put into position.
5. Remove securing disk (p 57, Drawing 3, Pos. 8) from motor shaft and pull pulley motor, if necessary with help of 2 screwdrivers, upwards off shaft.
6. Undo chassis motor screws (p 57, Drawing 3, Pos. 14) and, after taking of cover, remove motor from below.
7. Set in the new motor and fit it against lifting jack cross-member from below. Insert screws from above, using locking agent, eg Loctite, if necessary, and tighten.
8. From above, lead plugged connection through opening in lifting jack cross-member and reconnect cable connection below the cross-member. Replace cover – Watch out: Cover fits in only one direction.
9. Fit pulley motor and secure with securing disk.
10. Now turn pulley motor spindle on end-stop switch side with belt in place clockwise until lifting jack cross-member is lying securely on wooden support. Pull belt tightly towards other spindle; also turn this clockwise until lifting jack cross-member is lying on other wooden support just as firmly. Hold pully disk firmly and fit belt.
11. Now lead belt from both spindles towards the middle of lifting jack cross-member, lay it on the black guide wheels and first then fit it to pulley motor.
12. Press tensioning wheel support towards pulley motor to tighten belt. In doing so, it is best to use the pressure mark left by the tensioning wheel support screws during manufacture as a guide.
13. Secure tensioning wheel support in this location and replace cover.

Caution: Be careful not to damage end-stop switch cable when replacing cover.

14. Raise bed a few centimetres and remove wooden supports.
15. Carry out functional test.

14.11. Adjusting end-stop switch

Drawing 2: Interior of leg; Pos. 24; Page 55; Drawing 3: Lifting jack cross-member; Pos. A, B; Page 57

The end-stop switch brackets must be fitted to the lifting jack cross-member in such a way that the trip pins poking up out of the cross-member (p 55, Drawing 2, Pos. 24, 25) reliably activate

the end-stop switches. If the clearance is too big, the end-stop switch will not reach its activating position; if too small, the trip pins may become clamped.

To adjust, proceed as follows:

1. Lift off top cover.
2. Loosen end-stop switch bracket fixing screws on lifting jack cross-member (p 57, Drawing 3, Pos. 19) and push bracket into correct position. If necessary, enlarge screw holes with small round file.
3. Hold firmly in correct position and tighten screws.

Caution: Pay attention to end-stop switch cable: Risk of clamping!

4. Carry out functional test with open cover, paying attention to the correct operation of the end-stop switch.
5. Replace cover. When doing so, take care not to damage the end-stop switch cable.

14.12. Model 2080

14.12.1. Replacing safety frame slides

Drawing 5: Bed superstructure + safety frames; Pos. 17; Page 60

1. Remove safety frames (Pos.14, 15) by pressing in retaining bolt (Pos.27) with a suitable tool and allowing slide (Pos. 17) to slip downwards out of gliding channel (Pos.23). (Carry out this procedure on both head- and footboard)

Watch out: Hold safety frame firmly by handrail to prevent it from falling down.

2. Lay safety frame on its side so that screws are visible (Pos. 20). Undo screws with a Phillips-type screwdriver-bit.
3. Pull parts of slide mechanism out of vertical member of safety frame.
4. Undo nuts (Pos. 16) on ends of guide rods (Pos. 18) and pull both slides off. Push on new slides, paying attention to correct positioning (heel must point to top end). Check that washers (Pos.19) are to hand.
5. Attach slide mechanism to safety frame spars (moveable slides on safety frame spar, top), by retightening screws (Pos. 20) with sleeve nuts (Pos. 21).
6. Put slide mechanism into gliding channel from below on head- and footboard. Then raise safety frame until lower slide clears retaining bolt (Pos. 27).

14.11.2. Replacing ratchet lock / gliding channel

Drawing 5: Bed superstructure + safety frames, Pos. 22, 23; Page 60

1. Remove safety frames (Pos.15, 16) by pressing in retaining bolt (Pos. 8) with a suitable tool and allowing slide (Pos. 18) to slip downwards out of gliding channel (Pos.12). (Carry out this procedure on both head- and footboard)

Watch out: Hold safety frame firmly by handrail to prevent it from falling down.

2. Undo press button (Pos.6).
3. Undo screws (Pos.14) on gliding channel (Pos.12).
4. Take out gliding channel.

Be careful of retaining bolt + tension spring (Pos.8, 7) on lower end of gliding channel. These can jump out !

4. Undo screws (Pos.13) on ratchet lock (Pos.9).
5. Fit new ratchet lock or new gliding channel, securing screws with Loctite adhesive.
6. Position retaining bolt + tension spring and reassemble gliding channel and press button.

7. Put slide mechanism into gliding channel from below on head- and footboard. Then raise safety frame until lower slide clears retaining bolt (Pos. 27).

15. Tool list

- Ring wrench SW17, SW10
- Open-jaw wrench SW13, SW10
- Set Allen keys DIN 911
- Set screwdriver bits Torx
- Set screwdriver bits Phillips
- Drill bit ∅3,5
- Centre punch
- Light-coloured solid lubricant - Fettpaste 6 BS
- Loctite adhesivea
- Multiple slip-joint gripping pliers
- Cold chisel or wide-bladed screwdriver
- Riveting tongs
- Wooden pieces to support frame

16. Service centres

In case of need, please contact the person in the sales organisation who is responsible for you. You will immediately receive all relevant information about our comprehensive service system.

17. Spare parts order form

Here is an example of a spare parts order form for your nursing bed:

1. Take the identity number **and** the model from the type plate of your bed located on the chassis and the double mounting bracket. Fill them **both** into your order form.
2. Find the relevant exploded drawing for the spare parts that you require.
3. Note the following details needed for your order form from the table accompanying the drawing:

– quantity
– order no.
– description of parts
– Please do not forget to mention colour and/or size of the part in case it is available in different variants

4. Fill all details into the spare parts order form.
5. Fax the completed order form to the fax number printed on the form.

Example:

Identity No:	A3080-2000.10.01234-C/D
Model: (see type plate)	2080 S

This information has to be given to make the Völker AG able to deliver the right part.

	Quantity	Order No..	Description
1	1	3080-01-00:010	outer leg casing
2	2	3080-01-00:050	foot cap
3			Footboard, cherry
4			

You will find an order form on the last page of this manual

VOELKER AUTHORISED

SERVICE CENTER

Place Date

Firm/Stamp

Signature

Identity No:

Model:

(see Type plate)

Order:

	Quantity	Order No.	Description
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

18. Declaration of conformity

Appendix VII EU Directive 93/42/EEC

The signatory

Völker AG

Wullener Feld 79

58454 Witten/Germany

confirms that the products described below and in the form distributed by ourselves meet the basic requirements of Appendix I of EU Directive 93/42/EEC.

The following standards are applied:

DIN EN 60601-1,

DIN EN 60601-1-2,

DIN EN 60601-2-38 (applicable parts only),

EN 1970 (applicable parts only).

The requirements of the medical products law pertaining to the display of a **CE seal** of approval are thereby fulfilled. This declaration of conformity be- comes invalid if the products are altered without the agreement of the manufacturer.

Description of products Type/Article No.:

Nursing beds 2080 and 3080.

EU Directives:

Directive 93/42/EEC of 14.06.1993 concerning medical products (Appendix I, Basic requirements).

The design and construction of this product conforms to Class I (Appendix VII)Medical products law (MPG)of 02.08.1994.

Witten,11.03.2002

ppa.Michael Hüppe

Board member